

# INDIAN CHRONOLOGY

(SOLAR, LUNAR AND PLANETARY)

A  
PRACTICAL GUIDE  
TO  
THE INTERPRETATION  
AND VARIFICATION  
OF

*Tithis, Nakshatras, Horoscopes  
and Other  
Indian Time-records  
B.C. 1 to A.D. 2000*

L.D. SWAMIKANNU PILLAI

## PREFACE.

**T**HIS book, which was announced to the public under various names \*, is now issued under a title which restricts it to its original scope, namely, as a **Manual of Indian Chronology**, designed to present in one view and in a usable form all the material ordinarily required by investigators in that field of research.

The bulk of the tables, as well as of the letter-press, is devoted to a detailed exhibition of the *decursus* of Indian Chronology, solar, lunar and planetary, with eclipses, week-days, English calendar months and dates, *adhika* and *kshaya masas*, and mean places of the Sun and major planets, from B.C. 1 to A.D. 2000. The portion of the work, called Table X, will, it is hoped, supply a long-felt want among Epigraphists and Archæologists, official as well as non-official, in India, inasmuch as it will enable them to verify on the spot and *in less than a minute in any case*, the exact English equivalent of any Indian date occurring in any inscription as well as to test its genuineness. The instructions set opposite the Eye-Table at the end of the book are alone sufficient for any person, however previously unacquainted with the subject, to calculate quite accurately the ending moment of a *tithi* or *nakshatra*.

The work is intended, however, for the use of a much wider public than the scientific few who are interested in Indian chronological research. The same principles, whereby we are enabled to re-call into the light of history the inscriptions that are being unearthed at the rate of a thousand every year by the various Indian Epigraphical departments, continue to guide the religious observances and civil usages of millions of people in India at the present day, and no one interested in the social and religious life of this vast continent can fail to take at least some slight account of a system, so ancient and so thoroughly ingrained in the habits of the people. The Indian calendar is generally considered either too abstruse for popular, or too inaccurate for scientific, exposition, but neither of these objections is more than a fallacy. A good deal has been done in the past to put Indian chronology on its proper footing, namely, as the faithful handmaid of Indian history, and there is no reason why the torch so worthily carried in their day by the late Professor Kielhorn, the present Dr. Fleet and other workers in the field, should not be kept bright and burning in the hands of their successors, provided they are equipped with the necessary knowledge of data and principles.

Lastly, there is hardly any person, holding a position of consequence, public or private, in India, who is not occasionally confronted with the citation of an Indian date. To Magistrates, Judges, Lawyers, Missionaries, Business Men of every description, as well as to Historians, it is of interest to know the meaning of chronological terms in daily use among the people, although all may not, equally with the epigraphist and the archæologist, feel inclined to enter upon a regular study of Indian chronology. To those with scanty leisure, Tables XII and XVIII, forming a luni-solar and planetary Ephemeris for the 80 years A.D. 1840 to A.D. 1920, together with the simple instructions as to their use, contained in the Second and Fourth Parts of the book headed "Use of the Tables" and "Planetary Chronology" as well as in the Eye-Table, will be found no less handy than serviceable. The publications ordinarily known by the name of *Jantri* are unscientific, and few of them are up to date, whereas the ephemeris portion of the present work will enable any one to understand and decide, with reference to first principles, any question of current Indian chronology for seventy years past and some ten years to come. A table (XV) has also been inserted to link together the Indian and Muhammadan calendars.

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\* "Tithis, Nakshatras and other Indian dates B.C. 1 to A.D. 2000" (*Indian Review* for May 1910); "Indian Astronomy and Chronology with a Criticism on Indian Astrology" (Advt. page of the *Journal of the South Indian Association*, Madras), etc.

The book necessarily contains a vast amount of figures and tables, but the perusal of no part of it will requisition a greater knowledge of mathematics than is implied in the four simple rules of Arithmetic. Decimals have been used freely in order to ensure accuracy, but not only have tables whereby the decimal parts of a day, degree, etc., can be converted into *ghatikas*, *palas*, hours, minutes and seconds, been freely inserted, but the more important tables for the calculation of anomalies and equations for *tithis* and *nakshatras* (Table IX) and the Nakshatra Table itself (Table XI) have been twice given, once in the form of decimals and again as days, *ghatikas* and *palas*.

It was originally intended to limit this compilation to solar and lunar chronology, but the frequent occurrence, in chronological records, in Indian literature as well as in daily Indian life, of allusions to the mean or actual places of planets, induced the writer to add a considerable number of tables on this interesting, though somewhat difficult, subject. The tables of anomalies and equations, used for planets, are based mainly on those of *Vavilala Kuchinna*, as reproduced in Warren's *Kala Sankalita*. The computation of the geocentric longitudes of planets for the years A.D. 1840 to A.D. 1920, contained in Table XVIII, entailed an enormous number of detailed calculations, but the results will, it is hoped, be found sufficiently accurate for practical purposes. By "practical purposes" the author means solely the purposes of Indian chronology, and he wishes it to be distinctly understood that he does not believe in astrology any more than in the need for, or efficacy of, the fasts, festivals and donations mentioned in Chapter XVI, "Notes on tithis in relation to festivals", which find a place in this book, merely and solely because of the frequent references in inscriptions to Hindu fasts and feasts.

In conclusion, the author wishes to state that, while he has spared no pains to acquaint himself with the works of previous writers on the subject, he has endeavoured to work out details upon his own method which is explained in Part III—"Construction of Tables". To one honoured name in the field of Indian astronomy and chronology, that of **Professor Hermann Jacobi**, he wishes, though an utter stranger, to express special indebtedness, since to him the author owes his first knowledge of the subject as well as numerous illustrations serving to test the correctness of his method.

Lastly, he must thank the *Premier Press*, of Messrs. Hoe & Co., for the skill with which they have executed a work, which, though packed with figures, has been reproduced with a high degree of neatness consistently with economy. The author would have been glad to have inserted the proper diacritical marks throughout the text, but this would have entailed further delay in publishing a work, which, in the endeavour to make it accurate and reliable in more important respects, has already been kept too long in the press. Such marks have, therefore, been sparingly used, except in the Index, which gives the proper marks for every Sanskrit word occurring in the text, and to which reference should be made in case of doubt. The Index also explains the meaning of terms not occurring in the text, such as *Dakshinayana*, *Uttarayana*, *Aparapaksha*, etc.

MADRAS, }  
25th March 1911. }

L.D.S.

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## ADDENDA.

## Section 6 of Text and TABLE VI.

Surya Siddhanta Constants for Centuries from 0 Kaliyuga  
to 3101 K.Y. (B.C. 3102 to B.C. 1.)

Year B.C.	Kaliyuga.	Commence- ment of Solar Year.	Month and frac- tion of date.	First New Moon in Solar Year.	(C's anomaly at commencement of Solar Year.	Year B.C.	Kaliyuga.	Commence- ment of Solar Year.	Month and frac- tion of date.	First New Moon in Solar Year.	(C's anomaly at commencement of Solar Year.
3102 B.C.	0	15F	57924	2-17013	4-71797	1501 B.C.	1601	29F	84837	17-13408	20-26802
3101	1	15F	83800	20-80902	11-76692	1401	1701	1M	72402	20-59572	8-74421
3001	101	16F	71365	24-27066	0-24311	1301	1801	2M	59967	24-05736	24-77498
2901	201	17F	58930	27-73230	16-27388	1201	1901	3M	47532	27-51900	13-25117
2801	301	18F	46494	1-66335	4-75007						
						1101	2001	4M	35097	1-45005	1-72736
2701	401	19F	34059	5-12499	20-78084	1001	2101	5M	22662	4-91169	17-75813
2601	501	20F	21624	8-58663	9-25703	901	2201	6M	10226	8-37393	6-23432
2501	601	21F	99189	12-04827	25-28780	801	2301	6M	97791	11-83557	22-26509
2401	701	21F	96754	15-50991	13-76399						
						701	2401	7M	85356	15-29721	10-74128
2301	801	22F	84319	13-97155	2-24018	601	2501	8M	72921	18-75885	26-77205
2201	901	23F	71883	22-43319	18-27095	501	2601	9M	60486	22-22042	15-24824
2101	1001	24F	59448	25-89483	6-74714	401	2701	10M	48051	25-68213	3-72443
2001	1101	25F	47013	29-35647	22-77791						
						301	2801	11M	35615	29-14377	19-75520
1901	1201	26F	34578	3-28752	11-25410	201	2901	12M	23180	3-07482	8-23139
1801	1301	27F	22143	6-74916	27-28487	101	3001	13M	10745	6-53646	24-26216
1701	1401	28F	99708	10-21080	15-76106	1	3101	13M	98310	9-99810	12-73895
1601	1501	28F	97273	13-67244	4-23725						

N.B.—Odd years in centuries B.C. should be converted into positive years before using Table VII. See instructions in N.B. to Table XXII.

It will be seen that the Solar Year 0 K.Y. commenced on Feb. 15-57924. If to this be added the Sodhya of 2-1707 days we have, Feb. 15-57924+2-1707 = Feb. 17-75, or midnight between 17th and 18th Feb. B.C. 3102, which was the moment of commencement of the Era, 0 Kaliyuga, according to Surya Siddhanta. See foot-note on p. (3) of the Text.

## TABLE XVII.

Mean Places of Major Planets at Commencement of each Century from  
B.C. 1601 to B.C. 1 (K.Y. 1501 to K.Y. 3101.)

B.C.	K.Y.	Mars.	Mercury.	Jupiter.	Venus.	Saturn.
1601	1501	6-3122	73-0963	207-2519	359-5156	320-0274
1501	1601	66-8392	149-1143	1-9965	198-5007	101-9343
1401	1701	127-8662	225-1323	156-7411	37-4855	243-8412
1301	1801	187-8932	301-1503	311-4857	236-4709	25-7481
1201	1901	248-4202	17-1683	106-2303	75-4560	167-6550
1101	2001	308-9472	93-1863	260-9749	274-4411	309-5619
1001	2101	9-4742	169-2043	55-7195	113-4262	91-4688
901	2201	70-0012	245-2223	210-4641	312-4113	233-3757
801	2301	130-5282	321-2403	5-2087	151-3964	15-2826
701	2401	191-0552	37-2583	159-9533	350-3815	157-1895
601	2501	251-5822	113-2763	314-6979	189-3666	299-0964
501	2601	312-1092	189-2943	109-4425	28-3517	81-0033
401	2701	12-6362	265-3123	264-1571	227-3366	222-9102
301	2801	73-1632	341-3303	58-9317	66-3219	4-8171
201	2901	133-6902	57-3483	213-6763	265-3070	146-7240
101	3001	194-2172	133-3663	8-4209	104-2921	288-6309
1	3101	254-7442	209-3843	163-1655	303-2772	70-5378

## EXPLANATION.

With the aid of these two tables it is possible to calculate solar dates, tithis and *nakshatras* for any date between B.C. 3102 and B.C. 1 and also any horoscope from B.C. 1601 to B.C. 1. The places of planets' nodes for any of these years can be easily deduced from the places given in Table XVII in the body of the book for the centuries 1 B.C. to A.D. 2000.

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**TABLE XI—B. Shortest Interval in Days, Ghatikas and Palas  
NAKSHATRAS.**

Order.	Names of Nakshatras.	Order	Ordinarily	Order	Ordinarily	Order	Ordinarily	Order	Ordinarily	Order	Ordinarily
		Vaisakha		Jyeshtha		Ashadha		Sravana		Bhadrapada	
		I	d. g. p.	II	d. g. p.	III	d. g. p.	IV	d. g. p.	V	d. g. p.
27	Revati ... ..	3	0 59 21	5	0 48 15	7	0 37 9	9	0 26 2	11	0 14 56
1	Asvini ... ..	4	2 0 4	6	1 48 58	8	1 37 51	10	1 26 45	12	1 15 39
2	Bharani ... ..	5	3 0 47	7	2 49 41	9	2 38 34	11	2 27 28	13	2 16 22
3	Krittika (Tamil Kirutugai) ... ..	6	4 1 30	8	3 50 24	10	3 39 17	12	3 28 11	14	3 17 5
4	Rohini ... ..	7	5 2 13	9	4 51 7	11	4 40 0	13	4 28 54	15	4 17 48
5	Mirgasira (Tamil Mirugasirani) ... ..	8	6 2 56	10	5 51 50	12	5 40 43	14	5 29 37	16	5 18 31
6	Ardra (Tamil Arudra or Tiruvadirai) ... ..	9	7 3 39	11	6 52 33	13	6 41 26	15	6 30 20	17	6 19 14
7	Punarvasu ... ..	10	8 4 22	12	7 53 16	14	7 42 9	16	7 31 3	18	7 19 57
8	Pushya (Tamil Pusam) ... ..	11	9 5 4	13	8 53 59	15	8 42 52	17	8 31 46	19	8 20 40
9	Aslesha (Tamil Ayilyam) ... ..	12	10 5 47	14	9 54 42	16	9 43 35	18	9 32 29	20	9 21 23
10	Magha (Tamil Magham) ... ..	13	11 6 30	15	10 55 25	17	10 44 18	19	10 33 12	21	10 22 6
11	Purva Phalguni (Tamil Puram) ... ..	14	12 7 13	16	11 56 8	18	11 45 1	20	11 33 55	22	11 22 49
12	Uttara Phalguni (Tamil Uttiram) ... ..	15	13 7 56	17	12 56 51	19	12 45 44	21	12 34 38	23	12 23 32
13	Hasta (Tamil Hastam) ... ..	16	14 8 39	18	13 57 34	20	13 46 27	22	13 35 21	24	13 24 14
14	Chitra (Tamil Chittirai) ... ..	17	15 9 22	19	14 58 17	21	14 47 10	23	14 36 4	25	14 24 58
15	Svati ... ..	18	16 10 5	20	15 59 0	22	15 47 53	24	15 36 47	26	15 25 41
16	Visakha (Tamil Visakam) ... ..	19	17 10 47	21	16 59 43	23	16 48 36	25	16 37 30	27	16 26 24
17	Anuradha (Tamil Anusham) ... ..	20	18 11 30	22	18 0 26	24	17 49 19	26	17 30 13	1	17 27 7
18	Jyeshtha (Tamil Kettai) ... ..	21	19 12 13	23	19 1 9	25	18 50 2	27	18 38 56	2	18 27 50
19	Mula (Tamil Mulam) ... ..	22	20 12 56	24	20 1 52	26	19 50 45	1	19 39 39	3	19 28 33
20	Purva Ashadha (Tamil Puradam) ... ..	23	21 13 39	25	21 2 35	27	20 51 28	2	20 40 22	4	20 29 16
21	Uttara Ashadha (Tamil Uttaradam) ... ..	24	22 14 22	26	22 3 18	1	21 52 11	3	21 41 5	5	21 29 59
22	Sravana (Tamil Tiruvonam) ... ..	25	23 15 5	27	23 4 1	2	22 52 54	4	22 41 48	6	22 30 42
23	Sravishta or Danishta (Tamil Avittam) ... ..	26	24 15 48	1	24 4 44	3	23 53 37	5	23 42 31	7	23 31 25
24	Satabhisaj or Sataraka (Tamil Sadayam) ... ..	27	25 16 30	2	25 5 27	4	24 54 20	6	24 43 14	8	24 32 8
25	Purva Bhadrapada (Tamil Purattadi) ... ..	1	26 17 14	3	26 6 10	5	25 55 3	7	25 43 57	9	25 32 51
26	Uttara Bhadrapada (Tamil Uttirattadi) ... ..	2	27 17 57	4	27 6 53	6	26 55 46	8	26 44 40	10	26 33 34
27	Revati ... ..	3	28 18 40	5	28 7 36	7	27 56 29	9	27 45 23	11	27 34 17
		4	29 19 23	6	29 8 19	8	28 57 12	10	28 46 6	12	28 35 0

**Names of Yogas.**

**YOGAS.**

27	Vaidhriti ... ..	5	0 53 57	9	0 33 17	13	0 12 37	18	0 48 26	22	0 27 46
1	Vishkamba ... ..	6	1 50 26	10	1 29 46	14	1 9 6	19	1 44 56	23	1 24 16
2	Priti ... ..	7	2 46 55	11	2 26 16	15	2 5 35	20	2 41 25	24	2 20 45
3	Ayushmat ... ..	8	3 43 25	12	3 22 45	16	3 2 5	21	3 37 54	25	3 17 15
4	Saubhagya ... ..	9	4 39 54	13	4 19 14	17	3 58 34	22	4 34 24	26	4 13 44
5	Sobhana ... ..	10	5 36 23	14	5 15 43	18	4 55 4	23	5 30 53	27	5 10 14
6	Atiganda ... ..	11	6 32 53	15	6 12 13	19	5 51 33	24	6 27 23	1	6 6 43
7	Sukarman ... ..	12	7 29 22	16	7 8 42	20	6 48 2	25	7 23 52	2	7 3 13
8	Dhriti ... ..	13	8 25 51	17	8 5 12	21	7 44 32	26	8 20 21	3	7 59 41
9	Sula ... ..	14	9 22 21	18	9 1 41	22	8 41 1	27	9 16 50	4	8 56 12
10	Ganda ... ..	15	10 18 50	19	9 58 10	23	9 37 31	1	10 13 20	5	9 52 40
11	Vridhhi ... ..	16	11 15 20	20	10 54 40	24	10 34 0	2	11 9 49	6	10 49 10
12	Dhruva ... ..	17	12 11 49	21	11 51 9	25	11 30 29	3	12 6 19	7	11 45 39
13	Vyaghata ... ..	18	13 8 18	22	12 47 38	26	12 26 58	4	13 2 48	8	12 42 9
14	Harshana ... ..	19	14 4 48	23	13 44 8	27	13 23 28	5	13 59 17	9	13 38 38
15	Vajra ... ..	20	15 1 17	24	14 40 36	1	14 19 57	6	14 55 47	10	14 35 8
16	Siddhi ... ..	21	15 57 46	25	15 37 6	2	15 16 27	7	15 52 16	11	15 31 36
17	Vyatipata ... ..	22	16 54 16	26	16 33 35	3	16 12 56	8	16 48 46	12	16 28 7
18	Variyas ... ..	23	17 50 45	27	17 30 5	4	17 9 25	9	17 45 15	13	17 24 35
19	Parigha ... ..	24	18 47 15	1	18 26 34	5	18 5 55	10	18 41 44	14	18 21 5
20	Siva ... ..	25	19 43 44	2	19 23 4	6	19 2 24	11	19 38 13	15	19 17 34
21	Siddha ... ..	26	20 40 13	3	20 19 33	7	19 58 53	12	20 34 43	16	20 14 4
22	Sadhya ... ..	27	21 36 43	4	21 16 3	8	20 55 22	13	21 31 12	17	21 10 32
23	Subha ... ..	1	22 33 12	5	22 12 31	9	21 51 52	14	22 27 42	18	22 7 3
24	Sukla ... ..	2	23 29 41	6	23 9 1	10	22 48 21	15	23 24 11	19	23 3 31
25	Brahman ... ..	3	24 26 11	7	24 5 30	11	23 44 51	16	24 20 40	20	24 0 2
26	Indra ... ..	4	25 22 40	8	25 2 0	12	24 41 20	17	25 17 10	21	24 56 30
27	Vaidhriti ... ..	5	26 19 9	9	25 58 29	13	25 37 50	18	26 13 39	22	25 52 59
		6	27 15 39	10	26 54 59	14	26 34 19	19	27 10 8	23	26 49 29
		7	28 12 8	11	27 51 28	15	27 30 48	20	28 6 38	24	27 45 58
		8	29 8 37	12	28 47 58	16	28 27 18	21	29 3 7	25	28 42 27
						17	29 23 47				

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**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.								
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25
July	11	21	29				8	59

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



Addendum. **TABLE XI—D. Shortest Interval in Days, from New-Moon to ending NAKSHATRAS.**

Order	Names of Nakshatras.	Order Ordinarily Vaisakha	Order Ordinarily Jyeshtha	Order Ordinarily Ashadha	Order Ordinarily Sravana	Order Ordinarily Bhadrapada	Order Ordinarily Ashvina	Order Ordinarily Karttika	Order Ordinarily Margasira
		I	II	III	IV	V	VI	VII	VIII
27	Revati ...	3 0-9892	5 0-8041	7 0-6190	9 0-4339	11 0-2498	13 0-0698	16 0-8906	18 0-7055
1	Asvini ...	4 2-0011	6 1-8160	8 1-6309	10 1-4458	12 1-2608	14 1-0757	17 1-9025	19 1-7174
2	Bharani ...	5 3-0130	7 2-8279	9 2-6428	11 2-4578	13 2-2727	15 2-0876	18 2-9144	20 2-7293
3	Krittika ...	6 4-0249	8 3-3398	10 3-6548	12 3-4697	14 3-2846	16 3-0995	19 3-9263	21 3-7412
4	Robini ...	7 5-0368	9 4-8518	11 4-6667	13 4-4816	15 4-2965	17 4-1114	20 4-9382	22 4-7532
5	Mirgasira ...	8 6-0488	10 5-8637	12 5-6786	14 5-4935	16 5-3084	18 5-1233	21 5-9502	23 5-7651
6	Ardra ...	9 7-0607	11 6-8756	13 6-6905	15 6-5054	17 6-3203	19 6-1352	22 6-9621	24 6-7770
7	Punarvasu ...	10 8-0726	12 7-8875	14 7-7024	16 7-5173	18 7-3322	20 7-1472	23 7-9740	25 7-7889
8	Pushya ...	11 9-0845	13 8-8994	15 8-7143	17 8-5292	19 8-3442	21 8-1591	24 8-9859	26 8-8008
9	Aslesha ...	12 10-0964	14 9-9113	16 9-7262	18 9-5412	20 9-3561	22 9-1710	25 9-9978	27 9-8127
0	Magha ...	13 11-1083	15 10-9232	17 10-7382	19 10-5531	21 10-3680	23 10-1829	26 11-0097	1 10-8246
11	Purva Phalguni ...	14 12-1202	16 11-9352	18 11-7501	20 11-5650	22 11-3799	24 11-1948	27 12-0216	2 11-8366
12	Uttara Phalguni ...	15 13-1322	17 12-9471	19 12-7620	21 12-5769	23 12-3918	25 12-2067	1 13-0336	3 12-8485
13	Hasta ...	16 14-1441	18 13-9590	20 13-7739	22 13-5888	24 13-4037	26 13-2186	2 14-0455	4 13-8604
14	Chitra ...	17 15-1560	19 14-9709	21 14-7858	23 14-6007	25 14-4156	27 14-2306	3 15-0574	5 14-8723
15	Svati ...	18 16-1679	20 15-9828	22 15-7977	24 15-6126	26 15-4275	1 15-2425	4 16-0693	6 15-8842
16	Visakha ...	19 17-1798	21 16-9947	23 16-8096	25 16-6245	27 16-4395	2 16-2544	5 17-0812	7 16-8961
17	Anuradha ...	20 18-1917	22 18-0066	24 17-8216	26 17-6365	1 17-4514	3 17-2663	6 18-0931	8 17-9080
18	Jyeshtha ...	21 19-2036	23 19-0186	25 18-8335	27 18-6484	2 18-4633	4 18-2782	7 19-1050	9 18-9199
19	Mula ...	22 20-2156	24 20-0305	26 19-8454	1 19-6603	3 19-4752	5 19-2901	8 20-1169	10 19-9319
20	Purva Ashadha ...	23 21-2275	25 21-0424	27 20-8573	2 20-6722	4 20-4871	6 20-3020	9 21-1289	11 20-9438
21	Uttara Ashadha ...	24 22-2394	26 22-0543	1 21-8692	3 21-6841	5 21-4990	7 21-3139	10 22-1408	12 21-9557
22	Sravana ...	25 23-2513	27 23-0662	2 22-8811	4 22-6960	6 22-5109	8 22-3259	11 23-1527	13 22-9676
23	Shravishta ...	26 24-2632	1 24-0781	3 23-8930	5 23-7079	7 23-5229	9 23-3378	12 24-1646	14 23-9795
24	Satabhisaj ...	27 25-2751	2 25-0900	4 24-9049	6 24-7199	8 24-5348	10 24-3497	13 25-1765	15 24-9914
25	Purva Bhadrapada ...	1 26-2870	3 26-1019	5 25-9169	7 25-7318	9 25-5467	11 25-3616	14 26-1884	16 26-0033
26	Uttara Bhadrapada ...	2 27-2990	4 27-1139	6 26-9288	8 26-7437	10 26-5586	12 26-3735	15 27-2003	17 27-0153
27	Revati ...	3 28-3109	5 28-1258	7 27-9407	9 27-7556	11 27-5705	13 27-3854	16 28-2123	18 28-0272
		4 29-3228	6 29-1377	8 28-9526	10 28-7675	12 28-5824	14 28-3973	17 29-2242	19 29-0391
							15 29-4093		

## Names of Yogas.

## YOGAS.

27	Vaidhriti ...	5 0-8992	9 0-5548	13 0-2104	18 0-8075	22 0-4631	26 0-1187	4 0-7157	8 0-3713
1	Vishkamba ...	6 1-8407	10 1-4963	14 1-1519	19 1-7490	23 1-4046	27 1-0601	5 1-6572	9 1-3128
2	Priti ...	7 2-7822	11 2-4378	15 2-0934	20 2-6905	24 2-3460	1 2-0016	6 2-5987	10 2-2543
3	Ayushmat ...	8 3-7237	12 3-3793	16 3-0349	21 3-6319	25 3-2875	2 2-9431	7 3-5402	11 3-1958
4	Saubhagya ...	9 4-6652	13 4-3208	17 3-9763	22 4-5734	26 4-2290	3 3-8846	8 4-4817	12 4-1373
5	Sobhana ...	10 5-6067	14 5-2622	18 4-9178	23 5-5149	27 5-1705	4 4-8261	9 5-4232	13 5-0783
6	Atiganda ...	11 6-5482	15 6-2037	19 5-8593	24 6-4564	1 6-1120	5 5-7676	10 6-3647	14 6-0203
7	Sukarman ...	12 7-4896	16 7-1452	20 6-8008	25 7-3979	2 7-0535	6 6-7091	11 7-3062	15 6-9618
8	Dhriti ...	13 8-4311	17 8-0867	21 7-7423	26 8-3394	3 7-9950	7 7-6506	12 8-2477	16 7-9032
9	Sula ...	14 9-3726	18 9-0382	22 8-6338	27 9-2809	4 8-9365	8 8-5921	13 9-1891	17 8-8447
10	Ganda ...	15 10-3141	19 9-9697	23 9-6253	1 10-2224	5 9-8780	9 9-5335	14 10-1306	18 9-7862
11	Vridhhi ...	16 11-2556	20 10-9112	24 10-5668	2 11-1639	6 10-8195	10 10-4750	15 11-0721	19 10-7277
12	Dhruva ...	17 12-1971	21 11-8527	25 11-5083	3 12-1053	7 11-7609	11 11-4165	16 12-0136	20 11-6692
13	Vyaghata ...	18 13-1386	22 12-7942	26 12-4498	4 13-0468	8 12-7024	12 12-3580	17 12-9551	21 12-6107
14	Harshana ...	19 14-0801	23 13-7357	27 13-3912	5 13-9883	9 13-6439	13 13-2995	18 13-8966	22 13-5522
15	Vajra ...	20 15-0216	24 14-6771	1 14-3327	6 14-9298	10 14-5854	14 14-2410	19 14-8381	23 14-4937
16	Siddhi ...	21 15-9630	25 15-6186	2 15-2742	7 15-8713	11 15-5269	15 15-1825	20 15-7796	24 15-4352
17	Vyatiyata ...	22 16-9045	26 16-5601	3 16-2157	8 16-8128	12 16-4684	16 16-1240	21 16-7211	25 16-3766
18	Variyas ...	23 17-8460	27 17-5016	4 17-1572	9 17-7543	13 17-4099	17 17-0655	22 17-6625	26 17-3181
19	Parigha ...	24 18-7875	1 18-4431	5 18-0987	10 18-6958	14 18-3514	18 18-0070	23 18-6040	27 18-2596
20	Siva ...	25 19-7290	2 19-3846	6 19-0402	11 19-6373	15 19-2929	19 18-9484	24 19-5455	1 19-2011
21	Siddha ...	26 20-6705	3 20-3261	7 19-9817	12 20-5788	16 20-2343	20 19-8899	25 20-4870	2 20-1426
22	Sadhya ...	27 21-6120	4 21-2676	8 20-9232	13 21-5202	17 21-1758	21 20-8314	26 21-4285	3 21-0841
23	Subha ...	1 22-5535	5 22-2091	9 21-8647	14 22-4617	18 22-1173	22 21-7729	27 22-3700	4 22-0256
24	Sukla ...	2 23-4950	6 23-1506	10 22-8061	15 23-4032	19 23-0588	23 22-7144	1 23-3115	5 22-9671
25	Brahman ...	3 24-4365	7 24-0920	11 23-7476	16 24-3447	20 24-0003	24 23-6559	2 24-2530	6 23-9086
26	Indra ...	4 25-3779	8 25-0335	12 24-6891	17 25-2862	21 24-9418	25 24-5974	3 25-1945	7 24-8501
27	Vaidhriti ...	5 26-3194	9 25-9750	13 25-6305	18 26-2277	22 25-8833	26 25-5389	4 26-1360	8 25-7915
		6 27-2609	10 26-9165	14 26-5721	19 27-1692	23 26-8248	27 26-4804	5 27-0774	9 26-7330
		7 28-2024	11 27-8580	15 27-5136	20 28-1107	24 27-7663	1 27-4219	6 28-0189	10 27-6745
		8 29-1439	12 28-7995	16 28-4551	21 29-0522	25 28-7078	2 28-3633	7 28-9604	11 28-6160
				17 29-3966			3 29-3048		

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29		8	59	25				

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15					(☉'s Yoga Eqn.)	+	1	25
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

this moment is past, the moon resumes her journey at the rate of, say, 13 degrees a day and the sun resumes his at the rate of one degree a day. It follows that the moon gains twelve degrees over the sun in a day and therefore she gains 360 degrees in about 30 days. All these figures of days are approximate, but they will enable us to picture to ourselves what takes place. The synodical month, then, is the period during which the moon gains 360 degrees over the sun, and its exact length is 29·530587946 days.

**4. The Solar Year.**—The next astronomical constant which we have to study is the solar year, the length of which, according to the *Sūrya Siddhānta*, is 365·258756484 days. You have probably heard that the length of the year, according to modern astronomy, is 365·2422408 days, that the Julian calendar made out the year to be 365·25 days, *i.e.*, .00776 of a day in excess of the correct figure; that to rectify this error, Pope Gregory in 1582 ordered the dropping out of 10 days and the British Parliament in 1752 \* similarly dropped out 11 days, and that to avoid a recurrence of the error, we now drop out three leap years out of every hundred. You may be inclined to wonder that the Hindu astronomers adopted for their solar year a period which is not less than one ghaṭika in excess of the modern astronomical year. The year of 365·2422408 days is, however, a *tropical* year, whereas the Hindu astronomical year is an *anomalistic* † year, and we should really compare the Hindu year with the modern *anomalistic* year, which we seldom hear of in practice, but the correct length of which is 365·2596296 days, being an excess of .001 day over the Hindu year. This no doubt makes a difference of several days in the course of four or five thousand years, but as the Hindu year is essentially lunar and not solar, not much practical inconvenience is caused by the difference.

Perhaps you would like to know the practical difference between a tropical and an anomalistic year. A tropical year is that which brings the *seasons* round at the same time of the year, whereas an anomalistic year is that which brings back the sun's *anomaly*, *i.e.*, the rate at which he moves round the earth. This rate varies according as the sun is near to, or removed from, his perigee, *i.e.*, the point when he is nearest the earth, and once a year the sun returns, as it were, to his old pace. Now this varying pace of the sun is very important for calculating the moment of new moon, as well as for calculating the moment of sunrise, and this is probably why the Hindu astronomers reckon the course of the sun by the anomalistic, instead of by the tropical, year.

**5. The Decursus of the Hindu Solar Reckoning.**—Hindu astronomers reckon the present chronology from the midnight between 17th and 18th February 3102 B.C., which is commonly called the beginning of *Kaliyuga*. On the morning of 18th February 3101 B.C., that is one year later, one complete Hindu solar year had run out by 6·13 a.m., *i.e.*, at .25875 of the day. As however the Hindu day is always reckoned from sunrise, mean sunrise for the whole of India being at 6 a.m., the first year is reckoned to have been completed at 13 minutes (or exactly .00876 of a day) Indian time of the day, on 18th February 3101 B.C. At this moment the year 1 of Hindu chronology began. You probably think it

\* This was the occasion when the NEW STYLE (more fully explained in Ch. XXVI, Secs. 231 to 241, "Vara or Week-day") was introduced.

† Strictly speaking, a *sidercal* year, but the designation *anomalistic* year is more suitable at this stage in order to lead up to the sun's *anomaly*.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

through 200, 300, etc., years, till we find that in 3000 K.Y. the first mean new moon occurred 15·25746 days after the commencement of the solar year. For 3101 K.Y. (or 1 B.C.) we reckon the time of occurrence of the first mean new moon thus —

	Days.
For 3000 years ... ..	15·25746
For 100 years ... ..	3·46164
For 1 year ... ..	18·63889
	<hr/>
	37·35799
Deduct 1 completed synodical month ...	29·53059
	<hr/>
Remainder ...	7·82740
Add the <i>Sodhya</i> which causes the solar year to commence 2·1707 days earlier than it does by mean computation ( <i>vide</i> Sec. 66 <i>infra</i> ) ...	... + 2·1707
	<hr/>
Occurrence of first mean new moon in K.Y. 3101 (1 B.C.) ...	9·99810 days.

That is, in 1 B.C., the first mean new moon of the Hindu solar year occurred almost exactly 10 days (properly 10 days less ·0019 of a day) after the commencement of the solar year.

8. From 1 B.C. we can follow the occurrence of the first mean new moon in each successive year according to the Tables VI and VII, the figures in which have merely to be added up suitably for each year. Thus if we require the date of the first mean new moon in the current solar year K.Y. 5011, we proceed according to the tables :—

For K.Y. 5001, 16·70809 days. (Tab. VI).

For 10 years, 9·20534 „ (Tab. VII).

For K.Y. 5011, 25·91343 „

That is, the first mean new moon in the year A.D. 1910–11, K.Y. 5011, occurs 25·91343 days after the commencement of the solar year, and as the solar year itself commences, as we may see from other columns of the same tables, on Ap. 12·62041

+·58756

*i.e.*, on April 13·20797

it follows that the addition of 25·91343 days,

or 39·12140 days from 1 April, in other words 9·12140 days in May 1910, will give us the time of occurrence of the first mean new moon in K.Y. 5011. We may, if we like, convert the decimal places into *ghatikas* and *palas* or *hours* and *minutes*, according to Table XIX or XX, and we shall have as the result, 9th May 1910, 7 *ghatikas* and 17 *palas* or 2 hours and 55 minutes. This is the time of occurrence of *mean* new moon. About the *actual* ending moment of this or any other new moon *tithi*, we shall learn presently.

*N.B.*—For the meaning of *ghatika* and *palu*, See Sec. 130 *infra*.

### CHAPTER III.

#### SUN'S AND MOON'S ANOMALY AND ACTUAL MOMENT OF NEW MOON.

9. We computed the time of occurrence of the first mean new moon in K.Y. 5011, and we arrived at the result, 7 *ghatikas* and 17 *palas* after mean sunrise on 9th May 1910. If now we look into a Panchāngam, computed from the English Nautical Almanac, like Mr. Srauti's Tiruvādi Panchāngam or Messrs. Rāghava Chāri & Son's Nungumbaukam Panchāngam, we shall find the time of occurrence of the new moon in May 1910 to be 9th May, 13 *ghatikas* and 2 *palas* after sunrise. It is encouraging that we are so near the Panchāngam result, but we are not near enough. The Panchāngams in question are calculated

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



Hindu Astronomer Ganesa Daivajna, comes into operation. The effect of this *bija* is to raise the annual increase of the moon's anom. from 7·04896 d. to 7·04898 d. or by 2 seconds of time every year, and also to diminish the length of the anomalistic month from 27·5546 to 27·55459797 or ·000002 d., *i.e.*,  $\frac{1}{5}$  of a second every month. As a result of this correction, the anomaly for the commencement of K.Y. 5011 (1910-11 A.D.) is 2·1759 days. As the first new moon in the same year occurs (*vide* Section 8 *supra*) on the 25·9134th day after the commencement of the year, the anomaly for the time of the first new moon is

$$+ 2·1759$$

$$\underline{28·0893}$$

*Deduct* completed anomalistic month—27·5546

·5347 of a day.

**13.** As new moon is the moment when the moon has gained exactly  $360^\circ$  over the sun, we have, in determining this moment as well as the moon's anomaly at this moment, to take account of the sun's pace as well as the moon's. The sun's pace depends on his position in the anomalistic year, and that we know (Sec. 4) is the Hindu solar year. We also know that at the time of occurrence of the first new moon in K.Y. 5011 the sun had advanced 25·9134 days in the anomalistic year. We simply look for the corresponding equation in the table of sun's anomaly (Table IX-c) and we find it to be midway between +·145 and +·144. We put down +·1445 as the equation we require and *add* thereto ·5347, the moon's anomaly already found. Net moon's anomaly, ·6792.

We look in the table of moon's anomaly (Table IX-a) against ·679 of a day and we find the equation to be between —·059 and —·060. The actual anomaly entered in the table is ·677, and as our anomaly is ·679, we take a suitable equation by proportional parts, *i.e.*, ·0592.

We now *add* the total of sun's and moon's equations (+·1445 —·0592), or +·0853 to the mean time already found, 9·1213\* d., and obtain 9·2066, *i.e.*, 12 ghaṭikas 24 palas after mean sunrise on 9th May 1910. For the present we might be satisfied with this result, which agrees with sufficient closeness with that (13 ghaṭikas 2 palas) of the Nautical Almanac and the Panchāngams based thereon; for if we add the effect of longitude and local sunrise, already adverted to in Section 9 *supra*, our local time for the ending moment of the new moon tithi will be 13 ghaṭikas 39 palas after sunrise.

**14.** The reasons for the various processes whereby we arrive at the actual ending moment of any tithi will be clear to us when we come to Chapter XXIII "Theory of anomalies and equations," but one word on the subject may perhaps be usefully said before we close this chapter. The reader will observe that each anomaly table in our Table IX is divided into four equal portions, two having additive equations and two subtractive. Each equation, as given in the table, consists of three decimal places, the first two being given in vertical columns and the third in a horizontal column. The horizontal column is not necessary when all we want to know is how many hours or how many ghaṭikas after sunrise a

\* The reader should note that two fractions of the day are usually quoted for the moment of occurrence of any astronomical event, *tithi*, *nakshatra*, *yoga*, *karana*, etc. The first fraction (in this case ·9134) is part of a period of time reckoned from the beginning of the solar year, while the second fraction (in this case ·1213) is the time of the day, reckoned from mean Lanka sunrise, 6 a.m. The difference between the two fractions is (as will be seen from Sec. 8 *supra*) the fraction of day marking the commencement of the solar year, one of the data entered in Table X.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

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	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

## SCHEME OF MONTHS FOR 1 B.C., K.Y. 3101.

Lunar Months ...	Date of mean New Moon by Christian era and fraction of day.	Day of Solar Year when mean New Moon occurs; also Sun's anomaly.	Day of Solar Year when sankranti occurs, also dates of commencement and end of Solar Months. S.M.=Solar Month.	Moon's anomaly at moment of New Moon.	Sun's and Moon's equations (by Table IX a to c).
	<b>1. B.C.</b> Indian Solar Year commences Mar. 13-9831 (Table X, page 24). Mar. 23-98		<b>K.Y. 3101.</b> Mesha sankranti Vaisakha S.M.; Chittirai or Madam S.M.		
1. Vaisakha ...		9-99810	30-93523. Vrisabhha sank. Jyeshtha S.M.; Vaisakasi or Edavam S.M.	22-736	
2. Jyeshtha ...	Apr. 22-51	39-52869	62-3555. Mithuna sank. Ashada S.M.; Ani S.M.	24-712	
3. Ashada ...	May 22-04	69-05928	94-0003. Karkata sank. Sravana S.M.; Adi S.M.	26-688	
4. Sravana ...	June 20-57	98-58986	125-4755. Simha sank. Bhadrpada S.M.; Avani S.M.	1-109	
5. Bhadrpada.	July 20-10	128-12045	156-4942. Kanya sank. Asvina S.M.; Purattasi S.M.	3-085	
6. } Asvina	Aug. 18-63	157-65104	186-9355. Tula sank. Karttika S.M.; Aippasi S.M.	5-061	
7. }	Sep. 17-16	187-18163 — 5844 *186-5972		7-037 — 1724	—1724 } —4120 }
8. Karttika ...	Oct. 16-69	216-71221 — 5143 *216-1979	216-8289. Vrischika sank. Margasira S.M.; Kartigai (Tam.) S.M.	6-865 9-013 —1288	—5844 —1288 } —3855 }
9. Margasira ...	Nov. 15-23	246-24280 — 3212 *245-9216	246-3192. Dhanus sank. Pausha S.M.; Margali S.M.	10-989 — 0522 10-937	—0522 } —2690 }
Fausha ...	(Kshaya)		275-6369. Makara sank. Magha S.M.; Tai S.M.		
10. Magha ...	Dec. 14-176	275-77339 — 0414 *275-7319	305-0850. Kumbha sank. Phalgun S.M.; Masi S.M.	2-965 + 0391 13-004	+0391 } —0805 }
11. Phalgun ...	<b>1 A.D.</b> Jan. 13-29	305-30398 + 2501 305-5540	334-9053. Mina sank. Chaitra S.M.; Panguni S.M.	14-941 + 1193 15-060	+1193 } +1308 }
12. } Chaitra	Feb. 11-82	334-83457 *+4710		16-917 + 1685	+1685 } +3025 }
13. }	Mar. 13-35	335-8055 364-36515	365-2587. Mesha sank. Vaisakha S.M.; Chittirai or Madam S.M.	17-085 18-893	+4710

\* Day and fraction of day, marking exact moment of actual New Moon, after allowing for anomaly.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.											
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
	11	39	44			89	27	16	8	58	0
Sum - 18 gh. 15 p.											
	-	18	15			(☉'s Yoga Eqn.) +			1	25	
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

through the stars. For purposes of astronomical computation, the moon is supposed to spend an equal amount of time in each of the 27 nakshatras ; and as the total period of the moon's journey through the stars occupies 27·32166 days, it follows that the mean duration of each nakshatra is  $\frac{27·32166}{27} = 1·01191$  days, *i.e.*, 1 day and nearly 18 minutes. Thus, if we know the ending moment of a particular nakshatra, all we have to do to find out the ending moment of the next nakshatra, or, for that matter, of any other nakshatra, is to add as many times 1·0119 days as there are nakshatras between the ending moment which we know and the ending moment which we wish to find out. Having found this ending moment, we have next to add or subtract the moon's equation of time according to her anomaly at the ending moment of the nakshatra. We should remember that the sun's anomaly and the sun's equation of time do not enter into the calculation of the ending moment of nakshatras, because we are now concerned with the moon's own journey among the stars and not with the space gained by her over the sun.

**36.** When all we wish to know is the nakshatra for a particular tithi we may ascertain this directly from the mean tithi. The mean tithi, as we know, gives us the moon's longitude *minus* the sun's longitude. If to any tithi, therefore, we add the sun's longitude, we shall get the moon's longitude and this will enable us to find out the nakshatra corresponding to the longitude. The sun's longitude for nakshatras for every whole day of the solar year is given in the last column of the calendar (Table VIII) ; while the sun's longitude for decimals of a day is given in Table V. (The process of determining the sun's longitude for the purpose of nakshatras consists, briefly, in making 360° equal to 29·53059 day-spaces, and allowing for the *sodhya* of 2·1707 days. This conversion is necessary in order that we may add the moon's *less* the sun's longitude, which is calculated at the rate of 360° for 29·53059 days, to the sun's own longitude). To give an example, supposing we wish to find the nakshatra corresponding to the 27th day of February, A.D. 1910, which we found was the 18th tithi of lunar Māgha, ending at 2487 of the day, after sunrise, we proceed to determine the sun's longitude for the nakshatra. From the tithi we know that the sun's longitude for solar anomaly for the tithi is 320·30 days. The corresponding sun's longitude for nakshatra is as follows :—

	For 320 days (according to Table VIII)	25·6960 days.
	For 30 day (according to Table V)	·0242 „
Add moon's <i>less</i> the sun's longitude, <i>i.e.</i> , the equivalent of 18 tithis in days	17·7183 „	
	43·4385	
Deduct the equivalent of 360° of the moon's longitude	29·5306	
	13·9079	

We look in Table III for the nakshatra equivalent of 13·9079 days in lunation space. We find this to be number 13, whose longitude extends from 13·12470 to 14·21843. Now, No. 13 nakshatra is called *Hasta*, which is therefore the nakshatra current at the ending moment of our tithi.

**37.** When we wish to find the *current* nakshatra corresponding to a tithi, the above method may be varied by converting the tithi into degrees at the rate of 12° for each tithi and adding the sun's longitude from Table XVII A and C, as in the example in Sec. **287**.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

That is (by Tables VIII and XIX) 44 ghaṭikas 54 palas after mean sunrise on 6th November, A.D. 1910.

*N.B.*—For the years A.D. 1840 to A.D. 1919 we can get the ending moment of any Nakshatra yet more quickly from Tables XI and XII in the following manner :—

	d.	gh.	p.	days	gh.	palas.	☾'s Anom.	d.	gh.	p.
(Table XII) Kārttika New Moon 1910, November	2	18	18					12	23	28
Nak. interval No. 19 (Table XI—A, col. VII)	6	8	7							
Deduct for Nak. 1910-11 (Table XII, last col.)	—1	56	18							
	4	11	49	4	11	49		4	11	49
				6	30	7		16	35	17
Nak. Equation for ☾'s Anom. of 16 d. 35 gh. 17 p. (Table IX- <i>f</i> )				+	14	50				
					6	44	57			

The ending moment is Nov. 6, 44 ghaṭikas 57 palas after Ujain sunrise, which only differs by 3 palas from the result above arrived at.

**42.** If we want this in local time, say at Tanjore (Lat. 11°) we have to add as correction, according to Table XIII [Lat. 11° (Tanjore)—208th day of Hindu Solar Year, on 6th Nov., when the Solar Year commences on 13 April] + 994 seconds of time = 41 palas.

44 ghaṭikas 54 palas + 41 palas = **45 ghaṭikas 35 palas**, after sunrise at Tanjore on **6th November, A.D. 1910.**

This is the absolute ending moment of “Mūla” Nakshatra in Lunar Kārttika, A.D. 1910 (Kaliyuga 5011), according to the *Surya Siddhānta*. According to Mr. Srauti's Panchāṅgam, which is based on the Greenwich Nautical Almanac, the absolute ending moment is 52 ghaṭikas 24 palas and according to the Kanjanur “Panchāṅgam (No. 28)” it is 47 ghaṭikas 16 palas.

**43.** Suppose that in the same month we required to know the ending moment of No. 13 “Hasta” Nakshatra, instead of No. 19 “Mūla”, we would have to take the “Interval” in Table XI for No. 13 and deduct therefrom the equivalent of 25·9134, *i.e.*, 1·9383, which is the same for all months and all nakshatras throughout the Solar Year 1910 A.D. Against No. 13 under the 7th New Moon in Table XI there are two “Intervals”, *i.e.*, 0·0638 and 27·3854. We take the second interval as we cannot deduct 1·9383 from the first interval.

Nakshatra Interval.	Days.	☾'s Anomaly.
27·3854	216·3049	0·535
—1·9383 (Annual Nak. Corr.)		11·856
25·4471	+ 25·4471	+ 25·447
	241·7520	37·838
		— 27·555 (1 an. month.)
		10·283

Nakshatra equation for ☾'s anom. of 10·283 days  
(Tab. IX—*f*.)

—·2915

241·4605 days from 1st April, *i.e.*,

(by Tables VIII and XIX) 27 ghaṭikas 38 palas after *mean* sunrise on 27th November, A.D. 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.
	d.	gh.	p.	d.	gh.	p.	d.	gh.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0
(Table IX-i, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.								58
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25	
July	11	21	29			8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.	11	39	44			89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.	-	18	15			(☉'s Yoga Eqn.) +	1	25			
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

Correction (3): For  $220 + \frac{4325-3740}{64} = 220 + \frac{585}{64} = 220 + 9 = 229$  days,  
the correction is - 2248 seconds.

Total of corrections (2) and (3):  $+437 - 2248$  sec. = -1811 seconds = -75 vinadis.  
[Professor Jacobi arrives at the result - 74 vinadis.]

(iii) Kaliyuga 4128 ; 7 Jyeshtha (Bengal solar month); ALIGARH, latitude  $28^{\circ}$ .

Correction (1), + 14 vinadis. (We do not use this correction.)

Correction (2), - 291 seconds (37th day).  
Correction (3), + 2576 seconds (43rd day).  $\left\{ \begin{array}{l} \text{Total of corrections (2)+(3): } +2285'' \\ = 95 \text{ vinadis (94 vinadis according} \\ \text{to Professor Jacobi).} \end{array} \right.$

(iv) Kaliyuga 3585 ; Āshādhā *sukla* 12 (lunar month), ERAN,  $24^{\circ}$  N. Lat.

See PART III, sec. 261, p. (92) of the text.

**70.** The reader should note carefully when the total of all *three* corrections should be used and when the total of corrections (2) and (3) will suffice. When we merely want to know by how many seconds *local* sunrise preceded or followed 6 a.m., we should simply add up the second and third corrections, for here there is no need to consider the effect of terrestrial longitude. If the total correction is positive, sunrise precedes 6 a.m.; if the total correction is negative, sunrise is later than 6 a.m. The first three examples above illustrate this aspect of the problem.

When we want to know how many seconds should be added to or deducted from the ending moment of a *tithi* or *nakshatra*, of which we already know the Lankā time, *i.e.*, the time relatively to Lankā sunrise, we should sum up all *three* corrections, and if the sum is positive we should add it to Lankā time, while if the sum is negative it should be subtracted from Lankā time.

For examples, see the tables for determining the local Madras time of the ending moments of 30 tithis and 27 nakshatras in sections **167** and **175**, Part II *infra*.

## CHAPTER X.

### LAGHNA.

**71.** Closely analogous to the calculation of sunrise is that of the *laghna*, *i.e.*, the portion of the ecliptic which appears at the eastern horizon at a *particular moment of the day*. At other times we might require to know the moment of the day when a *particular portion of the ecliptic* will be *laghna*. An example of the first kind of problem is:—

“What is the laghna at the moment of a person's birth?”

*N.B.*—The portion of the ecliptic which is *laghna* or “cut” at the horizon at any given moment is ordinarily referred to as “the *laghna*”.

An example of the second problem is:—

“At what moment of a day, suitable for marriage, will a particular sign of the zodiac be laghna, so that the hour as well as the day most suitable for marriage may be determined?”

The best exposition of the Laghna is that given by Professor Jacobi at pp. 189, 190 of the *Indian Antiquary* for 1900, Vol. XXIX. A slight adaptation of Professor Jacobi's rules will be necessary to suit our Sunrise Table XIII.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



We add this correction *with the sign reversed* to the first :—

$$+1865 - 151 = 1714 \text{ seconds} = +72 \text{ palas.}$$

Adding this correction to the approximation first arrived at, we have

$$\begin{array}{r} 21 \text{ ghaṭikas } 40 \text{ palas.} \\ + 1 \text{ ghaṭika } 12 \text{ palas.} \\ \hline \end{array}$$

$$22 \text{ ghaṭikas } 52 \text{ palas.}$$

This was the moment (according to Professor Jacobi, *loc. cit.*) when the 165th degree of the ecliptic was *laghna* on the day in question.

*N.B.*—*Firstly*, we had to convert  $165^\circ$  of the ecliptic into days in order to apply Table XIII, which expresses the various portions of the ecliptic as days of the solar year.

*Secondly*, we reversed the sign of the correction in the case of the *laghna* because what we wanted was the difference between the corrections on account of the tropical longitude of the sun and of the *laghna* respectively.

**75. Second Problem.**—"What portion of the ecliptic was *laghna* on the same day at 20 ghaṭikas after sunrise" ?

We have seen that the Solar 6th Jyeshṭha corresponds to  $35^\circ$  sidereal longitude.

Now, a time-difference of 20 ghaṭikas answers to an interval in space of  $20 \times \frac{360}{60} = 120$  degrees.

$\therefore$  The portion of the ecliptic which was *laghna* at 20 ghaṭikas after sunrise was (*roughly*)  $120^\circ + 35^\circ = 155^\circ$  or the 5th degree of the 6th sign *Kanya* (*vide* Eye-table for the longitude corresponding to the different Rāśes).

This is enough for all ordinary calculations of *laghna*.

If we wish to be quite accurate, we proceed as follows. The correction for tropical longitude of the sun on the day in question was, as we have seen, +1865 seconds.

The correction for the tropical longitude of the *laghna*, i.e.,  $155^\circ$  of the ecliptic must be found by applying Tables XVII-A and XVII-C.

$$(\text{Table XVII-A}) \quad 159 \text{ days} = 154.57^\circ$$

$$(\text{Table XVII-C}) \quad .44 \text{ day} = .43^\circ$$

$$\hline 159.44 \text{ days} = 155.00^\circ$$

$$\text{Add for tropical longitude} \quad 4 \text{ days}$$

$$\hline 163.44 \text{ days.}$$

The correction for tropical longitude pertaining to the 20th degree of latitude and the 163rd day (in Kaliyuga 4000) is (by Table XIII) +333 seconds.

We add this *with sign reversed* to the first correction :

$$+1865 - 333 = +1532 = +64 \text{ palas.}$$

In other words, on the day in question, the 155th degree of the ecliptic was *laghna* at 20 ghaṭikas *plus* 64 palas.

We want, however, the degree of the ecliptic which was *laghna* at exactly 20 ghaṭikas after sunrise.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Krittika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Krittika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Krittika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Krittika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Krittika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Krittika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX-i, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Krittika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Krittika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Krittika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Krittika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Krittika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Krittika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

And the Jovian equivalent the next year, of A.D. 1515\* (solar year) is  $34.8317 + 15.1755 = 50.0072$ . That is, the 48th Jovian year, **Yrisha** was current † at the beginning of Solar Year A.D. 1514\* and the 50th Jovian year (**Subhanu**), was current † at the beginning of Solar Year A.D. 1515\*. Therefore the 49th Jovian year **Chitrabhanu** which was not used in this particular cycle of 60 years, was *kshaya* or suppressed. Of course there would be no suppression of a Jovian year if the third mode of citation was always used : but it is evident that the third mode, which requires an exact knowledge of the actual beginning and end of a Jovian year and which might be used by an author, would not be in *popular* use.

**102. Fourth Mode of Citation (4).** There is a fourth mode of citation of Jovian years which we often find in Malayalam inscriptions, and that is to cite, instead of one year out of every sixty, one year out of every twelve. In twelve Jovian years the planet Jupiter passes through the twelve signs of the zodiac and each sign corresponds to one of the twelve years of Jupiter's revolution. In the above case Jupiter having completed 9 Jovian years ‡ would be described as being in the 10th sign of the zodiac, i.e., *Makara* (Eye-table.)

**103. Fifth Mode of Citation (5).** In this the 12 Jovian years receive the names of the 12 lunar months, *Kārttika* being the first and *Asvina* the 12th. The Jovian years § (properly, months) are distinguished from lunar months by the prefix *Mahā*. Thus, *Mahā-Kārttika*, *Mahā-Mārgaśīra*, etc. In the example in sec. 98, Jupiter was in *Mahā-Srāvana*.

**104. Sixth Mode of Citation (6).** This is the heliacal rising system, in which the Jovian cycle begins with the heliacal rising of Jupiter, i.e., his re-appearance after a conjunction with the sun. The system is exhaustively dealt with by Mr. Dikshit in his introduction to Vol. III of Dr. Fleet's *Corpus Inscriptionum Indicarum*, and all the citations of this kind, hitherto found in inscriptions, are there collected.

**105.** Readers in Southern India will be mainly interested in the 1st and 4th modes of citation, of which the latter is otherwise called the "mean-sign system" § and which is met with in Travancore inscriptions, e.g., those discussed by Dr. Schram in *Indian Antiquary* Vol. XXV (1896), pp. 9—11 ; and by Professor Kielhorn at pp. 53, 174. *Ibid.*

We shall cite an example : " Kollam 389, Jupiter in Kumbha, and the Sun 18 days old in Mīna, THURSDAY, Pushya Nakshatra, 10th Lunar day ".

Kollam 389 is equivalent, as we shall see in sec. 112 *infra* to A.D.  $389 + 825 =$  A.D. 1214 (Indian Solar Year).

We might calculate the day of the solar year in one of two ways, either by taking the equivalent of the solar date from Table VIII or the Eye-table or by calculating the solar date of the tithi. The first is the simpler method and it gives us  $335 + 18 = 353$  days.

\* For convenience of reference, we use the expressions " Solar Year A.D. 1514 " to mean " the Indian Solar Year which began in A.D. 1514, i.e., Saka 1486=Vikrama 1571=Kaliyuga 4615, which began in March, A.D. 1514 ".

† The Jovian year *current* at a particular moment is, as the reader will have observed from the example already given, the Jovian year actually *completed* at that moment, omitting fractions. As no other Jovian year is ever referred to in the northern system, we need not be careful to distinguish between *expired* and *current* Jovian years, but may use the expressions as synonymous.

‡ "Jovian year" does not mean the period of revolution of Jupiter's orbit (which is a little less than 12 solar years) but one-twelfth of that period, which is roughly equivalent to a solar year.

§ In Part IV. of this book on Planetary Chronology, the reader will find a direct method of calculating either the mean or the actual sign or rasi occupied by Jupiter at any moment. (See Sec. 288).

The Jovian equivalent of 1214 A.D. is	31·3217 + 14·1638 =	45·4855	(Sec. 98.)
"	350 days is (35 days × 10) =	·9694	Table V.
"	3	·0083	do.
		<hr/>	
		46·4632	

Dividing the total equivalent by 12, we have as remainder 10·4632, *i.e.*, Jupiter has left the 10th sign and is in the 11th, *i.e.*, Kumbha (4th mode of citation). Or, we can calculate Jupiter's mean sign for 353 days of A.D. 1214 direct from Table XVII (pp. 202, 203), thus :  $220·10^\circ + 64·86^\circ + 29·33^\circ = 314·29^\circ$ , *i.e.*, (by Eye-Table) Jupiter was in *Kumbha*.

**106.** The equivalent in the Northern Cycle of the 46th Jovian year is (by Table XIV) *Pramathin* (3rd mode of citation), while in the Southern Cycle (1st mode of citation) the Jovian name for the solar year A.D. 1214 is (by Table I) *Bhava*. The Jovian year (Northern System) *current* at the beginning of the solar year A.D. 1214 was No. 45 *Bahudhanya*, which would be cited in cases where the 2nd mode of citation was in use.

## CHAPTER XIV.

### THE VARTTAMANA, PURNIMANTA AND KARTTIKADI SYSTEMS OF CITATION.

**107.** The ordinary or normal mode of citing an Indian date is by means of *gata* or 'expired' years (already explained, sec. 5 *supra*), *amanta* months (or months beginning with the first tithi after new moon or *amāvāsyā*), and *Chaitrādi* years (or lunar years beginning with *Chaitra*). The lunar year can begin with Chaitra only when the solar year begins with Mesha Sankrānti. Therefore a reckoning by Chaitrādi lunar years is the same as reckoning by Meshādi Solar Years.

**108.** Exceptional modes of citation, used at certain epochs of history, or still used in certain parts of India, are:—

*Varttamāna*, or current years, opposed to *gata* (expired); *Pūrnimānta* months, beginning with the tithi after full moon; and *Kārttikādi* lunar years (or "southern" years) beginning with the lunar month *Kārttika*.

**109.** In the *Pūrnimānta* system, each month beginning with a full moon is named after the next *amānta* month, but takes in the dark fortnight preceding each new moon. It is to this system that we owe the name *paksha*, lit. a wing, the dark and bright fortnights being the wings on either side of a new moon.

**110.** In the *Kārttikādi* lunar year system, the year beginning with lunar *Kārttika* takes the number of the Meshādi solar year then running, and has in common with it the five months, Lunar *Kārttika* to Lunar *Phālguna*.

#### Canons.

- I. A dark fortnight in *n*th *Amānta* month is in (*n* + 1)th *Pūrnimānta* month.
- II. Any month or tithi in *N*th year, expired, is in (*N* + 1)th year *current*.
- III. Any of the months named in the margin in *N*th year *Chaitrādi*, expired, is ascribed to the
  - (a) (*N* - 1)th year *Kārttikādi*, expired, or to
  - (b) *N*th year, *Kārttikādi*, *current*.

Chaitra  
Jyeshtha  
Ashadha  
Shravana  
Bhadrapada  
Asvina

*N.B.*—Conversely, any of the above months in *n*th year *Kārttikādi*, expired, is ascribed to (*n* + 1)th year *Chaitrādi*, expired.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

## CHAPTER XV.

## THE ERAS NOW IN USE OR MET WITH IN INSCRIPTIONS.

**112.** In the following Summary of Indian Eras, adapted from Cunningham and other authorities, we give in each case the formula whereby a year of each era, "expired" or "current" as the case may be, may be obtained from the A.D. year, also noting where the era is or was in use, and whether it is *amānta* or *pārnimānta*, *Chaitrādi* or *Kārttikādi* and so forth.

(1) *Kaliyuga* (expired year = 3102 *minus* B.C. year ; A.D. year + 3101). Used all over India as a solar (*Meshādi*) and luni-solar (*Chaitrādi*) year. The years in this era, with A.D., Śaka, and Vikrama equivalents, are regularly given in our Table X from B.C. 1 to A.D. 2000 ; and in Table XII from A.D. 1840 to A.D. 1920. For the years B.C. 3102 to B.C. 1, K.Y. 0 to K.Y. 3101, see Addendum, p. (114.)

(2) *Saptarshi* (current year = A.D. year + 76). Mostly *current* and mostly *pārnimānta* and *Chaitrādi*. At present in use in Kashmir and formerly in Multan and elsewhere. Quoted generally in cycles of 100 years. Thus A.D. 1910 = Saptarshi 1986, current, quoted only as "86 Saptarshi, current."

(3) *Vikrama Era* (expired year = A.D. year + 57). Extensively used at present in Guzerat and all over Northern India, except Bengal : *Kārttikādi* and *Amānta* in Guzerat, hence called *Southern Vikrama* ; *Chaitrādi* and *Pārnimānta* in N. India, hence called *Northern Vikrama*. Other names, "Malava Era" ; and also simply "Samvat". The Vikrama years, expired, from B.C. 1 to A.D. 2000 are regularly shown in our Table X, and from A.D. 1840 to A.D. 1920 in our Table XII.

(4) *Śaka Era* (expired year = A.D. year *minus* 78). Extensively used in India both in the past, and at present. *Meshādi* (for solar year) and *Chaitrādi* (for luni-solar year) : generally *amānta*, but *pārnimānta* in Northern India. Śaka equivalents of Kaliyuga and Vikrama years, expired, from B.C. 1 to A.D. 2000, are regularly given in our Table X, and from A.D. 1840 to A.D. 1920 in our Table XII.

(5) *Kollam Era* (current year = A.D. year *minus* 825). Used in Malabar, Cochin, and Travancore since A.D. 825. Begins in N. Malabar with solar *Kanya* and in S. Malabar with *Chingam* (Simha) ; (For memory aids, see sec. 138 *infra*) ; always *solar* and *current*. For years from A.D. 1840 to A.D. 1920, Kollam equivalents are regularly given in our Table XII. For previous years, the following century equivalents will be of use :—

A.D. 900 = Kollam	75
1000 = "	175
1100 = "	274
1200 = "	375
1300 = "	475
1400 = "	575

A.D. 1500 = Kollam	675
1600 = "	775
1700 = "	875
1800 = "	975
1900 = "	1075
2000 = "	1175

(6) *Bengali San* (or *Sen*) (current year = A.D. year *minus* 593). *Meshādi*, *current solar year*. Now in use in Bengal. For A.D. 1840 to A.D. 1920, B. San equivalents are regularly given in our Table XII. For previous years the following century equivalents will be of use :—

A.D. 600 = B.San	7
" 700 = "	107
" 800 = "	207
" 900 = "	307
" 1000 = "	407

A.D. 1100 = B.San	507
" 1200 = "	607
" 1300 = "	707
" 1400 = "	807
" 1500 = "	907

A.D. 1600 = B.San	1007
" 1700 = "	1107
" 1800 = "	1207
" 1900 = "	1307
" 2000 = "	1407

(7) *Chedi or Kalachuri Era* (current year = A.D. year minus 247), *current, Asvinâdi, pûrnamânta*.

A.D. 300 = Chedi 53 current.	A.D. 800 = Chedi 553 current.
" 400 = " 153 "	" 900 = " 653 "
" 500 = " 253 "	" 1000 = " 753 "
" 600 = " 353 "	" 1100 = " 853 "
" 700 = " 453 "	" 1200 = " 953 "

Not now in use, but was in use under the Kalachuri kings in Western and Central India.

(8) *Gupta* (current year = A.D. year minus 319).

A.D. 400 = Gupta 81 current.	A.D. 600 = Gupta 281 current.
" 500 = " 181 "	" 700 = " 381 "

Not now in use. Was in use in Central India and Nepal in the centuries above indicated as *current, Chaitrâdi, pûrnamânta*.

(9) *Valâbhi Era* (current year = A.D. year minus 318). *Current, Kârttikâdi, amânta, or pûrnamânta*.

A.D. 400 = Valâbhi 82 current.	A.D. 900 = Valâbhi 582 current.
" 500 = " 182 "	" 1000 = " 682 "
" 600 = " 282 "	" 1100 = " 782 "
" 700 = " 382 "	" 1200 = " 882 "
" 800 = " 482 "	" 1300 = " 982 "

Not now in use. Was in use in Kathiavâd and neighbourhood in centuries above indicated.

(10) *Vilâyati year* (current year = A.D. year minus 592). *Kanyâdi, solar, current*.

Now in use in Orissa. Months begin invariably on the day of Sankrânti instead of the next or the third day after [see Sec. 144 (1) *infra*].

This era bears to Bengali San pretty much the same relation that the Valâbhi bore to the Gupta era.

(11) *Amli year* (current year = A.D. year minus 592). *Luni-solar, current*. Lunar year changes on *Bhâdrapada sukla 12th*, i.e., some days before, or some days after, Kanyâ Sankrânti. Otherwise the same as Vilâyati. Current in Orissa. Probably bears the same relation to Vilâyati that the luni-solar year in the Telugu country bears to the solar year of the Tamil country (i.e., only New Year Day is different in each case).

(12) *Fasali year* (luni-solar) in Bengal, and N.W. India (current year = A.D. year minus 592); *pûrnamânta and lunar Asvinâdi* (i.e., it begins on pûrnamânta Âśvina, bahula pratipada); luni-solar year for Bengal, just as the Bengal San is the solar year for the same tract of country. Like all luni-solar years, the *Fasali* takes the number of the next Solar San. Thus, A.D. 1900 was, as we have seen, Bengal San 1307 current, but the luni-solar *Fasali* beginning on *Asvina krishna pratipada* of A.D. 1900 takes the number of the next Bengal San, i.e., 1308 current. Hence the formula for Bengal *Fasali* is "current A.D. year minus 592".

(13) *Dakhan Fasli* (current year = A.D. year *minus* 593) was up to A.D. 1556 (when its number was 963, *vide* Table XV, p. 195) a Hijra year, but from that year forward it has been kept as a solar year (identical in number with Bengal San), beginning, in parts of Bombay, when the Sun enters the Nakshatra *Mrigasira*, \* *i.e.* (now) about 7th or 8th June. The months, their periods of beginning, and number of days, are the same as in the Muhammadan calendar.

(14) The *Madras Fasli* year is an *agricultural, solar, tropical* year, beginning on 1 July and having no divisions of its own into months and days. Its formula is "current Fasli = A.D. year *minus* 590". The agricultural or revenue year from 1 July 1910 to 30 June 1911 might be expressed quite as well by the expression "Revenue Year 1910-11" as by the expression "Fasli 1320". The former expression would convey better sense to most people, and the expression "Fasli year", the use of which a blind tradition has consecrated in Madras, serves no other purpose than to confuse any one who is not a village karnam. It is a chronological anomaly and will no doubt gradually drop out of use.

(15) The Mahratta *Sâr-San*, *Shahâr-San* or *Arabi-San* (current year = A.D. year *minus* 599) was extensively used under the Mahratta supremacy, and is still occasionally met with. Begins, like the Dakhan Fasali, when the Sun enters the Nakshatra *Mrigashira*.\*

(16) *Harshakâla Era* (current year = A.D. year *minus* 606). Was current in Muttra (*Mathura*) in Kanauj, Nepal. Harsha 94 current = A.D. 700, and so on.

(17) *Nevar Era* (used in Nepal from A.D. 878 to }  
A.D. 1768), *expired, Kârttikâdi, Amânta.* } Nevar 21, expired = A.D. 900.  
Formula "Nevar expired = A.D. year *minus* 879". } Nevar 821, expired = A.D. 1700.

(18) *Chalukya Era* (expired year = A.D. year *minus* 1076). This was in use only from A.D. 1079 to A.D. 1162. It followed the Śaka months and pakshas. Chalukya 24 expired = A.D. 1100.

(19) *Lakshmana Sena Era* : (expired year = A.D. year *minus* 1108, according to present day almanacs). Now in use in Tirhut and Mithila, but along with the Śaka or Vikrama Era.

Dr. Kielhorn concludes that the formula for this era was (from A.D. 1194 to A.D. 1551). "Expired Lakshmana Sena year = A.D. year *minus* 1119". According to this formula A.D. 1200 would be equivalent to Lak. Sena 81 expired. The years of this era were *expired, Kârttikâdi, amânta*.

(20) *Mahratta Raja Saka Era* (current year = A.D. year *minus* 1673) was established on the accession of Śivâji: the number of the year used to change every *Jyeshtha sukla trayodasî*, which was the tithi or date of Śivâji's accession. Otherwise same as southern luni-solar amânta Śaka years.

(21) *Tarikh-i-Ilahi* (=mighty or divine era), dating from the accession of Akbar (14th February 1556), fell into disuse *temp.* Shah Jehan. Days and months were solar, without intercalations.

\* By Eye-Table, the Sun enters Nakshatra *Mrigasira* when his longitude is  $53^{\circ} 20'$ . The number of days corresponding to this (by Table XVII-A) = 56. When the solar year commences (as it did in A.D. 1911) on 13th April, the sun's entry into *Mrigasira* Nakshatra would be on  $56 + 13 = 69$  days from 1st April, *i.e.*, (Table VIII) on 8 June.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.			
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.		
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34	3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13	0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25		
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.	11	39	44			89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.	-	18	15			(☉'s Yoga Eqn.) +	1	25			
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**Magha Śukla 5** is *Vasanta panchamī*, when Rati and Kāma are worshipped in forenoon. *Sripānchamī* is another name.

**Phalgunā bahula 5** is *Ranga panchamī*, when colours are thrown about.

#### SHASHTHI (TITHI VI).

**Śravana Śukla 6** is *Kalki-Jayantī* (sunset), the last avatāra of Vishnu.

**Śravana bahula 6** is *Hala-Shashthī*.

**Bhādrapada Śukla 6** is *Sūrya-Shashthī* or *Skanda-Shashthī*.

**Bhādrapada bahula 6** is *Chandra Shashthī*. It is called **KAPILA-SHASHTHI** when it combines on **Tuesday** with Nak. Rohinī and Yoga Vyatīpāta and the Sun is in Hasta. (See Sec. 54).

**Kārttika Śukla 6** is special for feeding of Brahmans when it falls on Tuesday.

**Mārgasīra Śukla 6** is *Skanda-Shashthī* or *Mahā-Shashthī*; *Chāmpā-Shashthī*, when Siva is worshipped as Khandoba. This tithi is special when it falls on Sunday or Tuesday and combines with Nakṣatra Satabhishaj and Yoga Vaidhriti, or either of the two.

[N.B.—Our Table XI shows that Nak. Satabhishaj (No. 24) may concur with the tithi in a year in which some month before Mārgasīra is 'adhika'; but Yoga Vaidhriti (No. 27) can never concur with this tithi.]

#### SAPTAMI (TITHI VII).

A *Saptamī* on Tuesday, combined with Nak. Revatī (that is, by Tab. XI, **bahula 7** in Āshādhā or **Śukla 7** in Pausa or Māgha) is very auspicious. A *Śukla saptamī*, falling on Sunday, is called *VIJAYA*, and is special for donations. A *Śukla saptamī*, joined with the 1st quarter of Nak. Hasta, is called *BHADRA*. A *Śukla saptamī*, coinciding with a Sankrānti is called *MAHAJAYA*, which, for making donations, is superior even to an eclipse.

**Vaisākha Śukla 7** is *Gangā-Saptamī* or *Gāngotpattī* (birth of Gangā—midday).

**Śravana bahula 7** is *Sitalā-Saptamī* or *Sitalā-Vrata*, time *purvaviddha*.

**Bhādrapada Śukla 7** is called by some *Aparājita*.

**Āsvina Śukla 7**: about this tithi *Sarasvatī* is worshipped under Nakṣatra Mūla.

**Kārttika Śukla 7** is *Kalpādi* (forenoon).

**Mārgasīra Śukla 7** is *Sūryavrata*.

**Magha Śukla 7** is *Ratha-Saptamī* or *Mahā-Saptamī* (time, *arunodhaya*); *Manvādi* (forenoon).

#### ASHTAMI (TITHI VIII).

An *Ashtamī*, falling on Wednesday, is special and receives the name of *Budhāsh-tamī*. The *Śukla-Ashtamī* in **every month** is sacred to Durgā or Annapurānī; while the *Bahula-Ashtamī* in **every month**, called *Kālāshtamī*, celebrated at *purvaviddha*, is sacred to Krishna.

**Chaitra Śukla 8** is *Bhavānī-utpattī*: when joined with Wednesday and Nak. Punarvasu, bathing on this tithi is special.

**Śravana bahula 8**: *Janmāshtamī*, *Krishnāshtamī* or **KRISHNA JAYANTI** (midnight); special when combined with Nak. Rohinī; less so, when joined only to *Monday* or *Wednesday*; *Manvādi* (afternoon).

**Bhādrapada Śukla 8**: *Jyeshthā-Gaurī-pūjana-vrata*, when moon is in Nak. *Jyeshthā*.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.	11	39	44			89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.	-	18	15			(☉'s Yoga Eqn.) +	1	25			
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

<i>Month Sukla.</i>	<i>Bahula.</i>	<i>Month Sukla.</i>	<i>Bahula.</i>
<b>Asvina.</b> — <i>Pāsāṅkusā Ekādasī.</i>	<i>Ramā Ekādasī.</i>	<b>Pausha.</b> — <i>Putradā Ekādasī</i> or <i>MUKKOTTI</i> or <i>VAIKUNTHA</i> <i>EKADASI</i> <i>Manvādi</i> (forenoon).	<i>Shattilā Ekādasī.</i>
<b>Karttika.</b> — <i>Prabodhini Ekādasī</i> (Waking of Vishnu), <i>Bhishmapanchaka vrata</i> commences.	<i>Utpatti Ekādasī.</i>	<b>Magha.</b> — <i>Jayā Ekādasī.</i>	<i>Vijayā Ekādasī.</i>
<b>Margasira.</b> — <i>Mokshadā Ekādasī.</i>	<i>Saphalā Ekādasī.</i>	<b>Phalguna.</b> — <i>Amalaki Ekādasī.</i>	<i>Pāpamochinī Ekādasī.</i>

## DVADASI (Tithi XII).

The *Dvadasi* is called *Mahā-dvādasī* in the following circumstances :—

11th Tithi current at sunrise on two successive days : the next *Dvādasī* is called **Unmilani**.

12th Do. do. do. do. : the *Dvādasī* is called **Yanjuli**.

12th Tithi, to be followed by a full moon or a new moon tithi, current at two sunrises — **Pakshavardhini**.

12th Tithi, joined with Nakshatra *Pushya*, is **Jaya** [*i.e.*, by Tab. XI, Bahula 12 in Bhād; or Sukla 12 in Phālg. or Chait.]

Do. do. do. do. do. *Sravana* is **Vijaya** [*i.e.*, by Tab. XI, Sukla 12 in Bhād, Asv.; Bahula 12 in Phālg.]

Do. do. do. do. do. *Punarvasu* is **Jayanti** [*i.e.*, by Tab. XI, Sukla 12 in Phālg.; Bahula 12 in Śravana].

Do. do. do. do. do. *Rohini* is **Papanasini** [*i.e.*, by Tab. XI, Sukla 12 in Pausha, Māgha; Bahula 12 in Āshāḍha].

**Vaisakha** Sukla 12, joined with Nak. *Hasta*, and Jupiter and Mars in *Simha*, Sun in *Mesha*, is **VYATIPATA**.

**Ashada** Sukla 12 is the commencement of *Chāturmāsya vrata*.

**Sravana** do. is *Vishnoh-pavitrā-ropanam*.

**Bhadrapada** do. is *Vāmana jayanti* (midday); called **Sravana Dvadasi**, when joined with Nak. *Sravana*, and specially, when further joined with *Wednesday*.

**Asvina** bahula 12 is *Govatsa Dvādasī* (evening).

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**SUKLA PANCHADASI (Tithi XV): Sukla 15 or Full Moon (Pūrṇimā).**

A Śukla 15 or Pūrṇimā is called *Somavati* when it falls on Monday and is special for donations.

It is called **Chudamani** when it is *further* joined with a lunar eclipse.

Most pūrṇimās receive special names, which are given below :—

**Chaitra pūrṇimā :** (1) *Manvādi* (forenoon).

(2) *Hanumat-jayanti*.

(3) Special for bathing, when combined with Sunday, Thursday or Saturday.

**Vaisakha pūrṇimā :** *Kūrma jayanti* (late afternoon).

**Jyeshtha pūrṇimā :** (1) *Manvādi* (forenoon).

(2) *Vata pūrṇimā* or *Vata Sāvitrī* (purvavidhā).

(3) **Maha-jyaishthi**, when Moon and Jupiter are in Nak. *Jyeshthā* and Sun in *Rohini*.

**Ashada pūrṇimā :** (1) *Manvādi* (forenoon).

(2) *Sivasayanotsava*, or *Kokilā-vrata* or *Vyāsapūjā*.

**Śravana pūrṇimā :** (1) *Rig-yajuh-Srāvaṇī* (i.e., *Srāvana* for followers of Rig and Yajur Vedas).

(2) *Rakshabandhana* (tying a string round the arm) or *Raki-pūrṇimā* or *Nārālī pūrṇimā* (throwing cocoanuts into the sea).

(3) *Hayagrīva jayanti*.

**Bhādrapada pūrṇimā :** *Praushthapadi pūrṇimā* or *srāddha*.

**Āsvina pūrṇimā :** (1) *Kojāgarī pūrṇimā* or *Kojāgara vrata* (midnight). Lakshmi and Indra worshipped ; games of chance.

(2) *Navāṇṇa pūrṇimā*, when new grain is cooked.

**Kārttika pūrṇimā :** (1) *Manvādi* (forenoon).

(2) *Chāturmāsya vrata* ends.

(3) *Tripurī pūrṇimā* or *tripurotsava*.

(4) Special, when joined to Nak. **Kṛittika**.

(5) **Maha karttiki**, when joined to Nak. *Rohini*; or when Moon and Jupiter are both in Nak. *Kṛittika*.

(6) *Padmakayoga*, when Moon is in Nak. *Kṛittika* and Sun in Nak. *Viśākhā*.

(7) **KṚITTIKA** festival in Southern India.

**Mārgasīra pūrṇimā :** (1) *Datta treya* or *Datta-jayanti* (evening).

(2) Special for donations of salt, when joined to Nak. **Mrigasīra**.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha								
New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha											
New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.											
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
	11	39	44			89	27	16	8	58	0
Sum - 18 gh. 15 p.											
	-	18	15			(☉'s Yoga Eqn.) +			1	25	
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



## CHAPTER XVII.

## MODERN EQUATIONS FOR LUNAR INEQUALITIES.

**116.** In compliance with a desire expressed by many persons interested in the *Drig-ganita* system, it has been thought advisable to include in the present work three very simple tables (XVI-A, XVI-B and XVI-C) for correcting the ending moments of tithis worked out according to the *Sūrya-Siddhānta*, so as to bring them within 2 ghaṭikas of *Drig-ganita* or *Nautical Almanac* results, further approximation not being possible within the limits of a popular work. Seeing that *Siddhānta* and *Drig-ganita* panchāngams occasionally exhibit a divergence of 17 ghaṭikas (7 hours) in regard to tithis intermediate between new-moon and new-moon, the approximations now made possible will go a great way towards leading to a better understanding between the followers of the two systems.

**117.** Modern Astronomers use five principal equations in order to determine the moon's actual, from her mean, elongation (or tithi). These are (1) the sun's equation of the centre, (2) the moon's equation of the centre, (3) the moon's evection, (4) the moon's variation, (5) the moon's annual equation. Of these (5) is already included in the sun's equation and both are given together in Tables IX-c and IX-h, (4) depends only on the tithi and is given in the last column of Table XVI-A, while (2) and (3) are given respectively in Tables XVI-B and XVI-C.

**118.** The example given below will show clearly how Table XVI is to be used, but it will be useful to bear in mind the following rules:—

Rule (1) Table IX gives *equated anomalies* (as explained in sec. 251) for *mean* tithis, i.e., each anomaly given in Table IX-a, b and g, for the moon, contains the equation which has to be separated before applying the equation to the *mean* tithi, whereas the anomaly given in Tables XVI-B and XVI-C is a *mean* anomaly for the *actual* moment of the tithi. The principle of the method is to work until the equation obtained from the *equated* anomaly of Tables IX-a, b and g, is equal to the equation obtained from the *mean* anomaly in Tables XVI-B and XVI-C. Accordingly, Table XVI enables us to ascertain an ending moment not *per saltum*, but gradually and by successive approximations, using the equated anomalies of Tables IX a, b and g, as our base.

Rule (2). Tables XVI-B and XVI-C apply, as they stand, only to the first quarters (0 d. 0 gh. 0 p. to 6 d. 53 gh. 20 p.) of the anomalistic month, when the equations are **negative**. For the 2nd quarter (6 d. 53 gh. 20 p. to 13 d. 46 gh. 40 p.) the equation is **negative**, and the argument should be obtained by deducting the given anomaly *from* 13 days 46 ghat. 40 palas. For the third quarter (13 days 46 gh. 40 p. to 20 d. 40 gh. 0 p.) the equation is **positive** and the argument should be obtained by deducting 13 d. 46 ghat. 40 palas *from* the given anomaly. For the fourth quarter (20 d. 40 gh. 0 p. to 27 d. 33 gh. 17 p.) the equation is **positive** and the argument is obtained by deducting the given anomaly *from* 27 days 33 ghat. 17 palas.

Rule (3). On account of differences between Indian and European astronomical constants, 45 palas have to be added to the moon's mean elongation or tithi and 14 ghaṭikas to the moon's mean anomaly. These corrections are applicable from the year A.D. 1800 to the year A.D. 2000.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

We began with  $-26\text{gh. } 8\text{p.}$  and ended with  $-26\text{gh. } 13\text{p. (G)}$ .

We may be satisfied with this result. Our final equation will be  $-26\text{gh. } 13\text{p.}$

(1) Sun's equation of the centre and C's annual eqn. + Variation	$-11\text{gh. } 23\text{p.}$
(2) Moon's do. do. and C's evection	$-26\text{gh. } 13\text{p.}$
	<hr/>
	$-37\text{gh. } 36\text{p.}$

This being deducted from our mean tithi, we have

mean tithi or elongation	Aug. 37.	$1\text{gh. } 48\text{p.}$
		<hr/>
		$-37\text{gh. } 36\text{p.}$

Aug. 36.  $24\text{gh. } 12\text{p.}$

To which *add* for local time (Table XIII);  $1651'' = 1\text{gh. } 9\text{p. (Lat. } 13^\circ, 146\text{th day)}$ .

Aug. 36 or Sep. 5,  $25\text{gh. } 21\text{p.}$

which is about 2 ghaṭikas in excess of the time given in *Drig-ganita* panchāṅgams for the year *Saumya* (A.D. 1909—10), whereas the *Siddhānta* panchāṅgams give 12 or 13 ghaṭikas more as the ending moment of bahula Shashṭhi in Nija Śrāvana of that year.

**120.** Ordinarily, the greatest difference between *Siddhānta* and *Drig-ganita* panchāṅgams occurs from the 6th to the 10th tithis. For the reason of this divergence, the reader is referred to the article on the *Moon* in the *Encyclopedia Britannica*, where we are told that ancient astronomers were unacquainted with the evection and variation, as perturbing elements of the lunar theory.

**121.** If the reader wishes to know how *Drig-ganita* panchāṅgams obtain their tithis from the *Nautical Almanac*, we may state the process in a very few lines:—

Taking the above example, we look out in the *Nautical Almanac* the ☉'s and ☾'s longitude at Greenwich mean noon on two or three neighbouring days, say 4th, 5th and 6th September 1909.

(1) September 1909.	(2) ☾'s long. at noon.			(3) ☾'s long. at noon.			(4) ☾'s elongation.			(5) ☾'s elongation for 24 hrs.		
	°	'	"	°	'	"	°	'	"	°	'	"
4	41	14	39.3	161	17	19.1	240	57	20.2			
5	55	25	16.2	162	15	29.9	253	9	46.3	12	12	26.1
6	69	11	33.6	163	13	42.8	265	57	50.8	12	48	4.5

Columns 2 and 3 of this table are extracted from the *Nautical Almanac* for 1909. Column 4, Moon's elongation, is of course column 2 less column 3, and the difference between the elongations of two successive days is entered in column 5. The tithi we want is Bahula Shashṭhi, *i.e.*, the 21st tithi which ends when the Moon's elongation is  $21 \times 12^\circ = 252^\circ$ . This, we find, was sometime before Greenwich noon on 5 September 1909. Since the Moon's exact elongation at Greenwich noon on 5th September 1909 was  $253^\circ.9'46.3''$  which is  $1^\circ 9' 46.3'' (= 1.1628^\circ, \text{ by Table XIX})$  more than we require, we have to deduct the time taken by the Moon to effect this elongation. This last time may be determined by working out a proportion either to the elongation of the previous 24 hours ( $12^\circ 12' 26.1'' = 12.2072^\circ$  by Table XIX) or to the elongation of the next 24 hours ( $12^\circ 48' 4.5'' = 12.8011^\circ$  by Table XIX). The result is (1)  $\frac{1.1628}{12.2072} = .0953 \text{ day}$ , or (2)  $\frac{1.1628}{12.8011} = .0908 \text{ day}$ .

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**125.** All the books that deal with the Muhammadan Calendar mention the above difference of usage, but they do not give the reason of it. The reason is, however, not far to seek.

If we write down the accumulated error which remains at the end of each year by reason of the neglect to take account of 44 minutes, which we adverted to in the first section of this chapter, we obtain the following result under the system of reckoning the 8th, 19th and 27th as leap years :—

Year.	Error.	How error is corrected by leap year.	Year.	Error.	How error is corrected by leap year.
1st year, 8 hrs. 48'			16th year, Nil.		
2nd year, 17 hrs. 36'			17th year, 5 hrs. 36'		
3rd year, 2 hrs. 24'	1st day added by leap year.		18th year, 14 hrs. 24'		
4th year, 11 hrs. 12'			19th year, 23 hrs. 12'	7th day added by leap year.	
5th year, 20 hrs. 0'	2nd day added by leap year.		20th year, 8 hrs. 0'		
6th year, 4 hrs. 48'			21st year, 16 hrs. 48'	8th day added by leap year.	
7th year, 13 hrs. 36'			22nd year, 1 hr. 36'		
8th year, 22 hrs. 24'	3rd day added by leap year.		23rd year, 10 hrs. 24'		
9th year, 7 hrs. 12'			24th year, 19 hrs. 12'	9th day added by leap year.	
10th year, 16 hrs. 0'	4th day added by leap year.		25th year, 4 hrs. 0'		
11th year, 0 hrs. 48'			26th year, 12 hrs. 48'		
12th year, 9 hrs. 36'			27th year, 21 hrs. 36'	10th day added by leap year.	
13th year, 18 hrs. 24'	5th day added by leap year.		28th year, 6 hrs. 24'		
14th year, 3 hrs. 12'			29th year, 15 hrs. 12'	11th day added by leap year.	
15th year, 12 hrs. 0'	6th day added by leap year.		30th year, Nil.		

We see that by observing the 8th, 19th and 27th years as leap years, a day is added by means of a leap year in order to avoid the error accumulating to more than *1 day* at the end of the following year.

Those that observe the 7th, 18th and 26th as leap years add a day by means of a leap year in order to avoid the error accumulating to more than *half a day* at the end of the following year. This in fact is what is done by both the schools at the end of the 15th year.

**126.** The months and the number of days in each are as follows :—

Month.	No. of days.	Day of Commencement reckoning from beginning of year.	Month.	No. of days.	Day of Commencement reckoning from beginning of year.
1. Muharram ...	30	...	7. Rajab ...	30	177
2. Safar ...	29	30	8. Shaban ...	29	207
3. Rabi-ul-awwal ...	30	59	9. Ramzan ...	30	236
4. Rabi-ul-akhir or Rabi-us-sani ...	} 29	89	10. Shawwal ...	29	266
5. Jumadal-awwal ...	30	118	11. Zilkada ...	30	295
6. Jumadal-akhir or Jumad-us-sani ...	} 29	148	12. Zil-hijja Do. (when inter- calary). ...	29 30	} 325

All readers are familiar with the names of two of the Muhammadan months, *Muharram* and *Ramzan*, and all are equally familiar with the fact (due to the strictly lunar character of the year) that Muharram is liable to occur at any part of the solar year.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**133.** A solar date is thus cited :—

(Tamil) *Sādhārana* varusham, Âni 15.

(Malayalam) *Kollam* 1086, Dhanus 20.

(Bengal) *San* 1316, Māgha 28.

**134.** TAMIL. SOLAR DATES.—The year *Sādhārana* is one of 60 years comprised in Jupiter's cycle. The revolutions of the cycle from A.D. 967 to A.D. 1926 are clearly indicated with corresponding English years in Table I. The reader will find that in the current cycle *Sādhārana* is A.D. 1910, and this fact is also indicated in Table XII under A.D. 1910.

**135.** Looking down the columns in Table XII under A.D. 1910, we find the following entries against *Ani* :—

3 Je. 14.      32 6 Jl. 15.

These abbreviated entries give us the following useful information :—

The month of *Ani* in A.D. 1910 begins on June 14, the day of the week being 3, *i.e.*, Tuesday.

The same month of Âni contains 32 days, the 32nd day being July 15, the corresponding day of the week being 6, *i.e.*, Friday.

Now, to deduce the 15th day of *Ani*, the first being given, is an easy matter : for we have only to add 14 to “3 June 14” and we get “17 June 28.”

Now “17” for the day of the week is obviously 3, for we must cast out sevens, *i.e.*, whole weeks, when the figure indicating the day of the week exceeds 7.

We thus answer : “*Sādhārana*, Âni 15” is Tuesday, 28 June, A.D. 1910.

**136.** Tamil years may also be quoted by *Kaliyuga* or *Saka* eras, and the years belonging to these eras are also indicated opposite the A.D. year in Table XII. We there see that A.D. 1910 corresponds to Kaliyuga 5011 and Saka 1832.

**137.** The reader should now note a peculiarity in the citation of Indian years, namely, that as a rule the years are “expired”, not “current”. To understand the difference between these expressions, we go back to the first year of Kaliyuga, which began on 18th February 3102 B.C. We are apt to call that the beginning of the first year : but Hindu reckoning prefers to call it the beginning of the year 0, and what it calls the year 1 is really what we should call the second year, *i.e.*, the “expired” year 1, and so the difference of 1 runs throughout the reckoning between “expired” (*gata*) and “current” (*vartiamāna*) years. In the present work, following the bulk of the authorities, all purely Indian eras (except the Kollam Ându) are expressed in expired years, and A.D. and Kollam years are alone expressed as current years. When the reader wants a “current” year for an Indian era (except Kollam), he should add 1 to the figure given in this work.



**138. MALAYALAM DATES.**—We have just stated that the Kollam or Malayalam era reckons current not expired years : and we find from Table XII that Kollam Ându 1086, cited in our example, began in South Malabar in the month of CHINGAM (Tam. *Avani*) A.D. 1910 and in North Malabar in the next month KANNI (Tam. *Purattâsi*). To help the memory, we may recollect that “*Simha*” (the sign of the zodiac from which *Chingam* is derived) and “*South Malabar*” begin with “**S**.” In fact “**S-M**” may stand equally for “Singa**M**” and “**S**outh **M**alabar”; while both “**N**. Malabar” and “**Kanni**” contain a strong “**n**” (unlike the soft nasal *n* in Chingam.)

**139.** We find from Table XII that “Kollam 1086, Dhanus” begins on Thursday, 15 December 1910, and ends (the number of days in Dhanus being 30) on Friday, 13 January 1911. Now between 20 Dhanus and 30 Dhanus the difference is 10, and so we deduct 10 from 13 January 1911 and get 3 January 1911 as the equivalent of “Kollam 1086, Dhanus 20”. To find the day of the week, we deduct 10 from 14 (next higher multiple of 7) *plus* 6, that is from 20, and we get 10, which is equivalent to 3 Tuesday.

### Bengal Solar Dates.

**140.** Our specimen date is San 1316, Mâgha 28.

We find from Table XII, p. 151, that San 1316 (expired) is the Solar year corresponding to A.D. 1910–11 ; and from Table XII, p. 136, that the 1st of Solar Mâgha falls on Sunday, 15 Jan. 1911 ; while the 29th of Solar Mâgha (the last day of the month) is Sunday February 12. Obviously the 28th Mâgha is Saturday, February 11, A.D. 1911.

*N.B.*—Our Table XII treats the B. San years as *expired*. It will be seen, however, from Sec. 112 (6) that B. San years are usually cited as *current*. To convert the *expired* years in Table XII into *current*, add, as usual, 1.

**141.** The reader will note that each Bengal Solar month has the same name as the Lunar month commencing during that Solar month ; whereas in the Tamil country each Solar month is named after the Lunar month which began *before* the Solar month in question. This is an important practical difference to be borne in mind in calculating Bengal and Tamil Solar dates. For instance Tamil *Kârtigai* is the next month to Bengal Solar *Kârttika*.

*N.B.*—All Solar months were originally named from the corresponding Lunar months ; and each Lunar month was in turn named from the nakshatra in which the moon ordinarily is at Full Moon in that month. See Table XI.

### Commencement of the Solar Month or Sankranti.

**142.** The astronomical commencement of a solar month is the moment of *Sankrânti*, i.e., the moment when the sun enters a sign of the Zodiac. To ascertain the moment of Sankrânti, we must add up two figures, namely, (1) the ghaṭikas and palas (and if we like the day of the English month) entered in Table XII against “Commencement of the Solar Year”, and (2) the days, ghaṭikas and palas entered in the Eye-Table under the month of which we wish to know the Sankrânti or moment of commencement.

Thus, in the case of the three months which we selected as examples, the Sankrântis are as follows :—

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX-i, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

next day. This is why the Tamil month *Tai*, corresponding to Bengal Solar *Māgha*, A.D. 1910–11 is shown in Table XII as having commenced on 14 January 1911, *i.e.*, the day after the Sankrānti.

**145.** The authors of the “Indian Calendar” also state that in Malabar, when the Sankrānti occurs after 18 ghaṭikas, the Solar month commences on the next day. If this were so, Malayālam *Dhanus* in A.D. 1910–11 would commence on 16th December 1910. As a matter of fact, however, all the Malayālam Panchāngams show *Dhanus*, A.D. 1910–11, as commencing on the same day as the Tamil *Mārgali*, *i.e.*, on 15 December 1910. This fact imports an element of doubt into the so-called “Malabar rule” laid down by Messrs. SEWELL & DIKSHIT; and till the contrary is shown to be the case, we must assume that the Tamil rule is followed in Malabar.

**146.** The Bengal rule laid down by the same authorities is practically applied in Table XII, page 136 (Ephemeris for Bengal). Whatever may be the rules as regards the commencement of a civil month *in any part of India*, the data given in Table XII and the Eye-Table will enable any one to apply his own *civil* rule with certainty. The dates entered in Table XII for the commencement and end of Solar months, apply in strictness only to Southern India and to the *Ārya Siddhānta*. For the *Sūrya Siddhānta* and for tracts where a different *civil* rule from that in force in Southern India is followed, suitable corrections may have to be applied, as in Table XII, page 136 (Ephemeris for Bengal).

**147.** To illustrate the difference between Sankrāntis according to Ārya and Sūrya Siddhāntas, we will give a practical example from a case which recently came under the author's notice. A person produced a Tamil horoscope which contained among other data the following note on the date of his birth :—

“A.D. 1856, June 28, *Ani* 16.”

A reference to the Tamil panchāngams of the year A.D. 1856 showed that according to *all* of them, 28 June 1856 A.D., corresponded to 17th, not to 16th *Ani*.

The apparent discrepancy was explained by the sole fact that the person, though now residing in Southern India, was born at *Belgaum* where the *Sūrya Siddhānta* is followed, and where presumably the horoscope was cast by a Tamil Astrologer.

The Solar year corresponding to A.D. 1856 commenced on 11 April A.D. 1856, at 14 ghaṭ. 6 palas according to *Sūrya Siddhānta* (Table X) and at 7 ghaṭ. 55 palas according to *Ārya Siddhānta*. (Table XII.)

For *Ani* Sankrānti by the Tables II and XIX, we have to add 62 days 21 ghaṭ. 20 palas according to *Sūrya Siddhānta*, and 62 days 19 ghaṭ. 34 palas according to *Ārya Siddhānta*.

∴ According to *Sūrya Siddhānta*, *Ani* Sankranti occurred on the 73rd day (reckoned from 1 April 1856) at 35 ghaṭ. 26 palas (*i.e.*, after 30 ghaṭ.)

According to *Ārya Siddhānta*, *Ani* Sankrānti occurred on the 73rd day (reckoned from 1 April 1856) at 27 ghaṭ. 29 palas (*i.e.*, before 30 ghaṭikas).

**148.** In accordance with the *civil* rules for Solar months current in the Tamil country (Sec. 144 *supra*) the month of *Ani* in A.D. 1856 began (according to *Sūrya Siddhānta*) on the 74th day reckoned from 1 April 1856, *i.e.*, on the 13th June 1856 (*vide* Table VIII), and the 16th *Ani* was 13 + 15 = 28th June 1856.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX-i, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**163.** According to the Eye-table we find the Sun's Equation for an anomaly of 92 days, 51 ghat, to be *minus* 2 ghat. 20 palas, and we deduct this equation from the moon's anomaly already found. The Equation of the centre for the moon's net anomaly of 12 days 19 ghat. 22 palas is, by the Eye-table, *minus* 9 ghaṭikas.

**164.** The sum of moon's and sun's Equations :

- 2 ghat.	20 palas.
- 9 ghat.	
- 11 ghat.	20 palas.

**165.** If 11 ghaṭikas be deducted from the mean ending moment of the 8th tithi, we obtain, as the *actual* ending moment of *sukla ashtamī*, 14 July A.D. 1910, 52 ghaṭikas after sunrise.

**166.** This is Lanka time. If now we wish to know the ending moment of the tithi in true local time, say at Madras (Lat.  $13^{\circ}$ ), all we have to do is to apply the figure entered in the column "Total correction" under Madras (Lat.  $13^{\circ}$ ) against the 92nd day of the Solar Year in Tab. XIII. The correction being + 2095 seconds or + 87 palas, that is + 1 ghat. 27 palas, the ending moment of **Sukla ashtamī**, 14 July 1910, at Madras, is (52 ghat. + 1 ghat. 27 palas =) 53 ghat. 27 palas. The "College" Panchāṅgam gives 52 ghat. 33 palas.

**167.** We will now show the reader how to calculate successive tithis from the Eye-table and Table XII combined. The duration of 1 tithi, according to the Eye-table, is 59 ghaṭikas 4 palas, that is, 1 day less 1 ghaṭika *plus* 4 palas. Bearing this in mind, we shall proceed to calculate the successive tithis after new moon, 7 July 1910; the mean time of which is 10 ghat. 57 palas, or nearly 11 ghaṭikas.





**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**Table showing mean and actual ending moment (Lanka time and Madras local time) for each Nakshatra from 6th July 1910 to 2nd August 1910.**

Name of Nakshatra.	English month and day.		Mean ending moment of Nakshatra.		Moon's mean anomaly		Nakshatra equation (Tab. IX-I).		Actual ending moment of Nakshatra, Lanka time.		Correction for Madras (Tab. XIII).		Actual ending moment of Nakshatra, Madras time.		Kanjapur No. 28 Panchangam.		College Panchangam.		Surya Siddhanta compared with Nautical Almanac.	
A.D. 1910	M.	d. gh. p.	d. gh. p.	gh. p.	M.	d. gh. p.	gh. p.	M.	d. gh. p.	gh. p.	M.	d. gh. p.	gh. p.	gh. p.	gh. p.	gh. p.	gh. p.			
Punarvasu ...	July	8 4 20	5 12 25	-20 35	July	7 43 45	+1 30	July	7 45 15	46 0	42 50	+2 25								
Pushya ...	July	9 5 3	6 13 8	-22 20	July	8 42 43	+1 30	July	8 44 13	45 23	40 27	+3 46								
Aslesha ...	July	10 5 46	7 13 51	-22 59	July	9 42 47	+1 29	July	9 44 16	45 54	39 36	+4 40								
Magha ...	July	11 6 29	8 14 34	-22 23	July	10 44 6	+1 29	July	10 45 35	47 38	40 28	+5 7								
Purva Phalguni ...	July	12 7 12	9 15 17	-20 35	July	11 46 37	+1 28	July	11 48 5	50 36	43 13	+4 52								
Uttara Phalguni ..	July	13 7 55	10 16 0	-17 33	July	12 50 22	+1 28	July	12 51 50	54 47	47 47	+4 3								
Hasta ...	July	14 8 28	11 16 43	-13 25	July	13 55 3	+1 27	July	13 56 30	52 57	53 48	+2 42								
Chitra ...	July	15 9 11	12 17 26	-8 22	July	15 0 49	+1 26	July	15 2 15	5 56	0 56	+1 19								
Svati ...	July	16 9 54	13 18 9	-2 45	July	16 7 9	+1 25	July	16 8 34	12 16	8 33	+0 1								
Visakha ...	July	17 10 37	14 18 53	+3 5	July	17 13 42	+1 25	July	17 15 7	18 40	16 9	-1 2								
Anuradha ...	July	18 11 20	15 19 35	+8 42	July	18 20 2	+1 24	July	18 21 26	24 41	23 1	-1 35								
Jyeshtha ...	July	19 12 3	16 20 18	+13 42	July	19 25 45	+1 23	July	19 27 8	30 3	28 53	-1 45								
Mula ...	July	20 12 46	17 21 1	+17 47	July	20 30 33	+1 23	July	20 31 56	34 26	33 15	-1 19								
Purva Ashada ...	July	21 13 29	18 21 44	+20 45	July	21 34 14	+1 22	July	21 35 36	37 17	36 11	-0 35								
Uttara Ashada ...	July	22 14 12	19 22 27	+22 29	July	22 36 41	+1 21	July	22 38 2	39 43	37 42	+0 20								
Shravana ...	July	23 14 55	20 23 10	+22 58	July	23 37 53	+1 21	July	23 39 14	40 29	37 59	+1 15								
Sravishta ...	July	24 15 38	21 23 53	+22 15	July	24 37 53	+1 20	July	24 39 13	40 5	37 13	+2 0								
Satabhisaj ...	July	25 16 21	22 24 36	+20 26	July	25 36 47	+1 20	July	25 38 7	38 47	35 38	+2 29								
Purva Bhadrapada ...	July	26 17 4	23 25 19	+17 39	July	26 34 43	+1 20	July	26 36 3	36 15	33 25	+2 38								
Uttara Bhadrapada ...	July	27 17 47	24 26 2	+14 5	July	27 31 52	+1 19	July	27 33 11	33 16	30 44	+2 27								
Revati ...	July	28 18 30	25 26 45	+9 54	July	28 28 24	+1 19	July	28 29 43	29 34	27 45	+1 58								
Asvini ...	July	29 19 13	26 27 28	+5 14	July	29 24 27	+1 19	July	29 25 46	25 35	24 27	+1 19								
Bharani ...	July	30 19 56	27 28 11	+0 25	July	30 20 21	+1 18	July	30 21 39	21 32	21 0	+0 39								
Krittika ...	July	31 20 39	0 45 37	-3 40	July	31 16 59	+1 18	July	31 18 17	17 30	17 29	+0 48								
Rohini ...	Aug.	1 21 22	1 56 20	-9 9	Aug.	1 12 13	+1 18	Aug.	1 13 31	13 43	13 55	-0 24								
Mrigasira ...	Aug.	2 22 5	2 57 3	-13 24	Aug.	2 8 41	+1 17	Aug.	2 9 58	10 20	10 27	-0 29								
Ardra ...	Aug.	3 22 48	3 57 46	-17 8	Aug.	3 5 40	+1 17	Aug.	3 6 57	7 36	7 19	-0 22								

## CHAPTER XXII.

### USE OF TABLE X.

**176.** Table X, which covers more than a hundred and thirty pages of the present work is intended to serve the epigraphist and the historian in somewhat the same manner as Table XII is intended to serve the general reader. If Table X is used in conjunction with the Eye-Table, nothing else is needed for the determination of the ending moments of tithis, correct to two places of decimals of a day, for any of the 2000 years between B.C. 1 and A.D. 2000. The manner of using Table X will be obvious to the reader who knows how to use Table XII.

\* *Chitra* Nakshatra extends from 56 gh. 30 p. on 13th July 1910 to 2 gh. 15 p. on 15th July 1910. No Nakshatra comes to an end on 14th July 1910, and this fact is indicated in the panchangas by entering *Chitra* as adhika against July 14, 60 gh. no palas as well as against July 15th, 2 gh. 15 p. The first entry means simply that on 14th July 1910, *Chitra* was current for the whole of the civil day.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

*I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).*

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

*II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.*

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.		
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8
1900	0	57	33	1	47	6	1901	1	46	26	3	18	3	1902	0	22	46	0	42	24
1901	1	46	26	3	18	3	1902	0	22	46	0	42	24	1903	1	11	39	2	13	21
1902	0	22	46	0	42	24	1903	1	11	39	2	13	21	1904	2	0	32	3	44	19
1903	1	11	39	2	13	21	1904	2	0	32	3	44	19	1905	0	36	53	1	8	39
1904	2	0	32	3	44	19	1905	0	36	53	1	8	39	1906	1	25	46	2	49	37
1905	0	36	53	1	8	39	1906	1	25	46	2	49	37	1907	0	2	7	0	3	57
1906	1	25	46	2	49	37	1907	0	2	7	0	3	57	1908	0	51	0	1	34	55
1907	0	2	7	0	3	57	1908	0	51	0	1	34	55	1909	1	39	53	3	5	52
1908	0	51	0	1	34	55	1909	1	39	53	3	5	52	1910	0	16	14	0	30	13
1909	1	39	53	3	5	52	1910	0	16	14	0	30	13	1911	1	5	7	2	1	11
1910	0	16	14	0	30	13	1911	1	5	7	2	1	11	1912	1	54	0	3	32	8
1911	1	5	7	2	1	11	1912	1	54	0	3	32	8	1913	0	30	21	0	56	29
1912	1	54	0	3	32	8	1913	0	30	21	0	56	29	1914	1	19	14	2	27	27
1913	0	30	21	0	56	29	1914	1	19	14	2	27	27	1915	2	8	7	3	58	24
1914	1	19	14	2	27	27	1915	2	8	7	3	58	24	1916	0	44	27	1	22	45
1915	2	8	7	3	58	24	1916	0	44	27	1	22	45	1917	1	33	20	2	53	42
1916	0	44	27	1	22	45	1917	1	33	20	2	53	42	1918	0	9	41	0	18	3
1917	1	33	20	2	53	42	1918	0	9	41	0	18	3	1919	0	58	34	1	49	0
1918	0	9	41	0	18	3	1919	0	58	34	1	49	0							
1919	0	58	34	1	49	0														

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.		
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8
1900	0	57	33	1	47	6	1901	1	46	26	3	18	3	1902	0	22	46	0	42	24
1901	1	46	26	3	18	3	1902	0	22	46	0	42	24	1903	1	11	39	2	13	21
1902	0	22	46	0	42	24	1903	1	11	39	2	13	21	1904	2	0	32	3	44	19
1903	1	11	39	2	13	21	1904	2	0	32	3	44	19	1905	0	36	53	1	8	39
1904	2	0	32	3	44	19	1905	0	36	53	1	8	39	1906	1	25	46	2	49	37
1905	0	36	53	1	8	39	1906	1	25	46	2	49	37	1907	0	2	7	0	3	57
1906	1	25	46	2	49	37	1907	0	2	7	0	3	57	1908	0	51	0	1	34	55
1907	0	2	7	0	3	57	1908	0	51	0	1	34	55	1909	1	39	53	3	5	52
1908	0	51	0	1	34	55	1909	1	39	53	3	5	52	1910	0	16	14	0	30	13
1909	1	39	53	3	5	52	1910	0	16	14	0	30	13	1911	1	5	7	2	1	11
1910	0	16	14	0	30	13	1911	1	5	7	2	1	11	1912	1	54	0	3	32	8
1911	1	5	7	2	1	11	1912	1	54	0	3	32	8	1913	0	30	21	0	56	29
1912	1	54	0	3	32	8	1913	0	30	21	0	56	29	1914	1	19	14	2	27	27
1913	0	30	21	0	56	29	1914	1	19	14	2	27	27	1915	2	8	7	3	58	24
1914	1	19	14	2	27	27	1915	2	8	7	3	58	24	1916	0	44	27	1	22	45
1915	2	8	7	3	58	24	1916	0	44	27	1	22	45	1917	1	33	20	2	53	42
1916	0	44	27	1	22	45	1917	1	33	20	2	53	42	1918	0	9	41	0	18	3
1917	1	33	20	2	53	42	1918	0	9	41	0	18	3	1919	0	58	34	1	49	0
1918	0	9	41	0	18	3	1919	0	58	34	1	49	0							
1919	0	58	34	1	49	0														

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.			
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.		
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34	3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13	0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25		
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

In the present case, supposing we are concerned with the Solar Year 5011 Kaliyuga, A.D. 1910 the year began as follows :—

	Surya Siddhanta.
(Tab. VI) A.D. 1900	Ap. 12·6204
(Tab. VII) Add for 10 years.	·5876
	<hr/> Ap. 13·2080
Moment of Solar <i>Chaitra</i> Sankrânti	} 334·9053 days.
according to <i>Sârya Siddhânta</i>	
which is followed in Bengal (by	} 335·1133 days of Solar year.
Tab. VI.)	

Arya Siddhanta.  
Ap. 12·5139  
·5868

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Ap. 13·1007

Moment of <i>Panguni</i> or <i>Meenam</i> Sankrânti, according to <i>Ârya Siddhânta</i> , which is followed in the Tamil country and in Malabar (by Tab. II.)	} 334·9200 days.
	} 335·0207 days of Hindu Solar year.

According to the rule followed in Malabar and the Tamil country, the month begins on the same day on which the Sankrânti occurs; if the Sankrânti occurred before ·50 of a day. [Sec. 144 (3)]. Therefore the 1st Panguni or 1st Meenam in the year, expired Kaliyuga 5011, was the 335th day of the Solar year and the 340th day would be the 6th Panguni or 6th Meenam.

In Bengal the month begins the day after Sankrânti, if the Sankrânti is before ·75 of the day. Therefore in Bengal the first Chaitra in the Solar year K.Y. 5011 (expired) will be the 336th day of the Solar year and the 340th day of the Solar year will only be the 5th Chaitra.

**219. Column 6.** The 6th column is the central column of the whole Table. The figure 340 in the present case is the guide in using the other columns.

**220. Column 7.** The 7th column should be read with the 8th. The two columns mean; "In a year where there is no *adhika mâsa*, the 1st tithi of the *dark* fortnight (indicated by *dark* figures) of Chaitra, which is called *bahula prathamî* or *badi 1*, ends on the 340th day of the Lunar Year at ·5861 of the day". If we find out the beginning of the lunar year, which we can do from Tables VI and VII, or Tab X, all we have to do is to add to it the ending moment of a tithi, as given in Table VIII, and then we know the day and fraction of day of the Solar Year or of the English Calendar year, when the mean tithi ends. Examples of this process are given throughout the work. If there has been an *adhika mâsa* during the year, which we can ascertain from Table X or XII, the tithi is advanced one month.

**221.** Thus, supposing we want the 3rd *bahula* tithi of *Mâgha* in expired K. Y. 5010 (A.D. 1909) when there was an *adhika Śrâvana*, we proceed as follows :—

Commencement of Solar year, A.D. 1909	Ap. 12·9492	(1)
First new moon in Solar year:	7·2745	(2)
18th <i>Mâgha</i> (for which we take from Table VIII the figures against the 18th of the next lunar month, <i>Phâlguna</i> )	...	(3)
	313·0242	(3)
(1) + (2) + (3), omitting 12 Ap.	321·2479 (Solar Year).	
(1) + (2) + (3), including 12 Ap.	333·2479 (days reckoned from 1 Ap.)	

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

Secs. 36, 49 and elsewhere, but our readers will probably prefer to use the alternative method provided by Tables XVII-A and XVII-C.

**230.** *Multiplication Table for Jupiter's Samvatsara.*—According to the *Sūrya Siddhānta*, Jupiter makes 364,220 revolutions (without *bija* or correction) and 364,212 revolutions (with *bija* or correction) in a yuga of 4,320,000 years. This means that the mean period of revolution of Jupiter is, with *bija*, 4332·41581277 days, and without *bija*, 4332·32065235 days. Each of these periods is nearly 12 years and a Jovian month or  $\frac{1}{12}$  of the period of Jupiter's revolution is very nearly equal to a solar year. The Jovian month is therefore called in ordinary language a Jovian year and there are 1·0117 Jovian years in a solar year. Also a mean solar day = ·00277 of a Jovian year.

The multiplication table of Jupiter's samvatsaras is merely the multiplication of each of these quantities from 1 to 99. For further particulars regarding Jovian years, see sections 97 to 106 *supra*.

## CHAPTER XXVI.

### USE OF TABLE IV (VARA OR WEEK-DAY), TABLES III, II AND I.

**231.** The *vāra* or week-day is almost invariably quoted in Indian dates. The fact that week-days are the same in European and Indian reckoning (*e.g.*, a Monday in a date a thousand years ago corresponded, as it does to-day, to an Indian *Soma-vāra*, Tamil *Tingal*) is a striking proof of the common origin of the Indo-European mode of reckoning the week. This identity becomes all the more striking when we consider that everything else in the two reckonings (year, month, day of month, hour of day, etc.) is different. The week-day is, therefore, an important link between the two systems and it is well that we have an easy and at the same time a thoroughly accurate and reliable mode of identifying the week-day of any date, however remote, in the past. The ordinary rule laid down in Indian works on astronomical computation is to count the days from the beginning of Kaliyuga (18 Feb., 3102 B.C.) and cast off sevens—a truly formidable operation which few of our readers will venture upon.

*N.B.*—The number of days from the beginning of Kaliyuga up to any moment under consideration is called the *Ahargana*. This is constantly alluded to in Hindu works on astronomical computation and we have therefore given an *Ahargana* Table (Table XXII, last page of this work), but the reader will have no occasion to use it unless to verify allusions.

**232.** Table IV of the present work supplies an easy method of verifying the day of the week of the European Calendar. An equally simple, if not a simpler, method might be devised for discovering the week-day of any date of an Indian solar year, but inasmuch as all operations in the present work are directed towards ascertaining the A.D. or B.C. date corresponding to an Indian date, it will be enough if we are able to verify week-days, through the B.C. or A.D. equivalents of Indian dates.

**233.** The reader will observe in Table IV three lines in heavy type, consisting of the figures

**1, 2, 3, 4, 5, 6, 7, or 0.**

These are called co-efficients. Each century, year of a century and month of a year has its co-efficient which is shown in Table IV, and all we have to do is to add up the



co-efficients for the component elements of a date, the day of the month being itself an additional co-efficient. Thus if we want to know the week day of 15 July 1910 we proceed as follows :

(Table IV) co-efficient of 1900	2
„ „ of 1910	5
„ „ of July	5
Day of month	15
	—
Total	27

Dividing 27 by 7, we have as remainder 6, which is equivalent to Friday, the 6th day of the week.

The 15th July 1910 was, therefore, a **Friday**.

It will simplify the operation if we cast off sevens in the very act of summing up the figures. Thus 2 + 5 being 7, we might neglect the first two figures, and 15 being  $2 \times 7 + 1$ , we need only add 5 + 1 which is 6 or Friday.

**234.** This method is applicable to any date, A.D. or B.C., **Old Style** or **New Style**, but the student should first understand the negative character of B.C. dates and also the difference between **Old Style** and **New Style**.

**235. B.C. dates.** All B.C. dates are negative. B.C. 44 is really the year “*minus* 44” in relation to A.D. 1. In determining week-days of B.C. dates, we should first of all convert the dates into positive figures: that is, for the century, we should take the next previous century increased by 1, and for the odd year we should take 101 *minus* the odd year we are dealing with.

Thus, supposing we want the week-day of 18 February 3102 B.C., the first day of Kaliyuga we proceed as follows :—

(Table IV). Co-efficient of 3201 B.C. (the century preceding 3102).....	3
„ „ 101 <i>minus</i> 2 (the odd year before us) = 99.....	4
„ „ February (in an ordinary year).....	2
Day of month	18
	—
Total	27

Now, 27 divided by 7 leaves 6, *i.e.*, **Friday** which, according to all accounts, was the first week-day of Kaliyuga.

**236. Old Style.**—At present every fourth year A.D. is a leap year, but century years 1700, 1800, 1900, 2000 A.D. are leap years only if the first two figures are divisible by 4.

This rule about century years was adopted, in most European countries (except Russia which still follows the Old Style) under the authority of a decree of Pope Gregory XIII, dated 1582, and in English speaking countries, under the authority of an Act of the British

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

### PART III.—CONSTRUCTION OF THE TABLES.

[This part is intended to be of use in criticizing the method employed in the present work as well as in suggesting further improvements. It will be of immediate interest to those readers who are acquainted with one or other of the existing methods connected with the well-known names of JACOBI, KIELHORN, SCHRAM, SEWELL AND DIKSHIT, CHHATRE, etc., besides the older and less known names of WARREN and JERVIS. The general reader who makes his first acquaintance with the subject in the pages of this work will find the present part thoroughly intelligible and exceedingly interesting, provided he has mastered the first two Parts.]

#### CHAPTER XXVII.

##### TABLES FOR CONVERTING SPACE INTO TIME.

**244.** The method of calculating and verifying Indian dates, presented in this work, is intended to be of service to the general reader as well as to the scientific expert, the epigraphist, the archæologist, and the historian. The method is perfectly simple and at the same time absolutely correct according to the Siddhântas, so that it has become possible for the first time to dispense with all manner of approximations and rough and ready methods which, however valuable in the hands of an expert, are apt to mislead and confuse, more often than they assist, the general reader. The principal device by which this combination of extreme simplicity with accuracy and absolute fidelity to the original authorities, has been accomplished, is the reduction of all quantities required for calculation to whole days and fractions of a day.

**245.** The civil day (with its multiple, the week,) is the one measure of time that is common to European and Indian reckoning, everything else (year, month, ghaṭikas, palas, hours, minutes, seconds,) being different in the two systems. Accordingly, the civil day and decimals of a day have been adopted throughout this work for expressing all manner of Indian dates as well as for working out ending moments of *tithis*, etc., and also for verifying the correspondence of English and Indian dates. Any decimal of a day can be converted readily into Indian *ghaṭikas* and *palas* (Tamil, *naligais* and *vinâdis*) or English hours, minutes, and seconds by means of Tables XIX and XX. To assist the reader in very exact computation, the fractions expressing minutes have been carried far enough to show the recurring places. If, for instance, we wish to know how many hours, minutes, and seconds are equivalent to  $\cdot 40490$  of a day, we turn to Table XX and find that  $\cdot 40486$  of a day is equal to 9 hours 43 minutes. The remainder of the decimal fraction is  $\cdot 00004$  which, the same table informs us, is between 3 and 5 seconds. So the answer is, 9 hours 43 minutes 4 seconds. The same decimal fraction is equivalent in Indian time (as we may see from Table XIX) to 24 ghaṭikas 18 palas. Ghaṭikas and hours, as fractions of a day, are also shown in the Eye-table at the end of the book.

**246.** The reader will notice that in the first three parts of the present work as well as in the connected tables (except the Subsidiary Tables VI-a, VII-a, and VII-b, which are intended mainly for purposes of comparison between the present tables and those of previous

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

mean ending moment of every *tithi* is given by the addition of the *tithi* equivalent in days (according to the Eye-Table) to the date of mean new moon. Precisely the same method was followed for the Ârya Siddhânta, Lalla's corrections being introduced at the appropriate date.

**250.** The mean anomaly, in the case of the moon as well as that of the sun, was reckoned from perigee, as in Professor Jacobi's article in the *Indian Antiquary* (1888), and not from apogee, as in his articles in Volumes I and II of *Epigraphia Indica*. For the purpose of Table IX, the moon's mean anomaly was converted into days in the ratio of 27·554599899 days to 360° in the case of the Sârya Siddhânta, and of 27·554566936 days to 360° in the case of the Ârya Siddhânta. The increase of the moon's mean anomaly for a single solar year is thus :—

Sârya Siddhânta, 7·048957797 days.

Ârya Siddhânta, 7·049310381 days.

The anomaly of the moon at the first moment of Kaliyuga was taken as 90° from perigee, that being the figure according to all the authorities. Subsidiary Table VII (a) is the conversion table for moon's anomaly according to the Sârya Siddhânta. From the year A.D. 1600, the corrected period of the anomalistic month (27·55459797 days) has been adopted for Sârya Siddhânta calculations.

**251.** The moon's mean anomaly, as entered in Table IX, corresponds to the *tithi* or space accomplished, while the equation is the addition to or deduction from the *tithi*, to be made in order to arrive at the *time* or *ending moment* of the *tithi*. Consequently, the equation in degrees was in every case added to or deducted from the mean anomaly, and the result, converted into days at the rate of 27·5546 days to 360°, is entered as the anomaly in Table IX.

**252.** For the purpose of Table IX—*c*, *f*, and *h*, the sun's mean anomaly, reckoned from perigee, was converted into days at the rate of 365·25875 days to 360° [Subsidiary Tab. VII (b)] and the sun's equation of the centre was converted at the same rate as the distance of moon from sun (29·53059 days to 360°), because the principal use of the sun's equation of the centre is to correct the mean into the true distance of the moon from the sun. The moon's equation of the centre in Table IX—*a*, *b*, *d*, *e*, *g*, was converted at the same rate, and for the same reason, from degrees into decimals of a day.

*N.B.*—In the Nakshatra and Yoga Equation Tables, IX—*i*, *j*, *k*, *l*, equations in degrees were converted into days at the rate of 27·32167 days for 360° in the case of Nakshatras, and of 25·4202 days for 360° in the case of Yogas.

**253.** The actual sun's anomaly, as entered in Table IX, is the result of a series of transformations which had to be carefully executed for each of the 680 stages of the anomaly. According to the Sârya Siddhânta, the mean anomaly of the sun at the commencement of each solar year, neglecting the slow motion of the perigee which is allowed for in that Siddhânta but not in the others, is 102° 45' or, in solar days, 104·25093 days. This amount has therefore to be added to the number of days expired in the solar year at a given moment in order that the sun's anomaly for that moment may be correctly expressed in days. From the sum, 2·1707 days have to be deducted for Sodhya. Thus the equation entered in Table IX (c) against the 182nd day of the solar year is the equation which really belongs to the following mean anomaly: *viz.*, 182 days *plus* 104·25093 days *minus* 2·1707 days, that

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.	11	39	44			89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.	-	18	15			(☉'s Yoga Eqn.) +	1	25			
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

by the equation of the centre, which in turn has to be calculated from the sun's mean anomaly, applied with proportional parts to Special Table XXIV-B in Vol. I. *Epigraphia Indica*: only then can the moment of sunrise for a given day in the solar year be ascertained.

**257.** In the present Table XIII on the other hand, the moment of sunrise for any day of any solar year is obtained by simply adding a figure in the column "Tropical Longitude" to the figure opposite the given day of the solar year in the column "Equation of Time"; and the result is the correction, in seconds of time, to be applied to mean sunrise at Lankâ (6 a.m.) to determine the local sunrise for the given latitude.

**258.** Column 3 under each degree of latitude in Table XIII is a further step towards simplification, for it gives, for the 80 years ending 1920, the *total* correction to be applied to mean Lankâ time in order to arrive at the local time, for each of 30 important places, including Calcutta, Madras and Bombay. In this column the difference in time corresponding to the longitude of each place, measured from Ujjain, is added to the correction for sunrise for each day of the solar year and for each degree of latitude.

*Example.*—*Ashâdha Sukla 12, Kaliyuga 3585 (expired) A.D. 484.*

**259.** A single test problem, the same as that selected by Mr. Dikshit in his Introduction to *Dr. Fleet's Gupta Inscriptions* as well as by Professor Jacobi in Vol. I of *Epigraphia Indica*, will suffice to demonstrate the absolute reliability and extreme simplicity of the above processes as carried out in the present work. The problem is to determine the ending moment of *Ashâdha sukla dvâdasî* in *Kaliyuga 3585 (expired)*, A.D. 484. The ending moment has to be determined (a) for Lankâ and (b) for the latitude and longitude of Eran (Lat. 24°, Long. 78° 15'). Lastly, the problem has to be worked out, first according to the *Sûrya Siddhânta*, and then according to the *First Arya Siddhânta*.

#### SURYA SIDDHANTA.

References to Tables.	Days of Solar Year.	Moon's mean Anomaly in days.
(Table X): Kaliyuga 3585; A.D. 484; * March 18·2212.		
First New Moon in Solar year ...	24·3900	4·494
(Table VIII): Âshâdha śukla 12 ...	70·8784	15·764
	95·2634	20·258
Table IX (c): ☉'s Eqn. for 95·26 days of Solar Year =	—·0455	(☉'s Eqn.)—·0455
Table IX (b): ☾'s Eqn. for anom. of 20·212 days =	+·4138	20·212
	+·3683 + ·3683	
* English month, day, and fraction of day marking commencement of solar year ...	95·6317	
	* March 18·2212	
	113·8529	

Our result is : the tithi ended at ·8529 of a day, *i.e.*, at 51 ghaṭikas 11 palas on the 113th day of the English Calendar, counting from 1st March.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



only difference between the Sūrya and Ārya Calendars at the epoch 3585 K.Y. We thus obtain .8530 day less .0231 day = .8299 day = 49 GHATIKAS 48 PALAS (Table XIX). This is exactly Mr. Dikshit's result for the mean Lankā time of the ending moment of the tithi according to the 1st Ārya Siddhānta. We may make the same deduction for true local time at Eran according to the same Siddhānta, and obtain Mr. Dikshit's result for this also.

NOTE.—There was also a difference of .001 of a day, i.e., 1½ minutes or 4 palas between the commencement of the solar year, K.Y. 3585, according to the Sūrya and Ārya Siddhāntas (*vide* Tables VI and VII in the present work); but apparently Mr. Dikshit neglected this trivial difference.

## CHAPTER XXVIII.

### CONSTRUCTION OF TABLE FOR NAKSHATRAS AND YOGAS.

**263.** Table XI contains a very easy method of calculating directly the absolute ending moment of a *nakshatra* or *yoga*.

The interval between new moon and any particular nakshatra  $n$  may be expressed by the formula  $\frac{29.5306-A}{q} + n \times d$ .

where  $A$  is the sun's longitude at new moon, expressed in terms of a lunation as in the last column of Table VIII,  $n$  is the numerical order of the given nakshatra, counting from Revatī,  $d$  is the mean duration of a nakshatra in days, and  $q$  is the ratio of the length of the synodical to that of the sidereal month.

The above expression may be expanded into

$$\left\{ 29.5306 - (f + al - 2.1707) \times m \right\} \times \frac{1}{q} + n \times d,$$

where  $f$  is the moment of occurrence of the first New Moon in a Solar Year, as given in Table X,  $a$  is the number of lunations completed since the commencement of the Solar Year,  $l$  is the period of a lunation in days (i.e., 29.5306 days); 2.1707 days are the *sodhya*,  $m$  is the factor for converting Sun's longitude into lunation space, according to Table V (last column);  $\frac{1}{q}$  is the factor used in the 1st column of Table V (i.e.,  $\frac{1}{1.0808}$ ) and  $n \times d$  is the collective duration in days of Nakshatras counted from Revatī up to the end of the given Nakshatra.

We may expand the above expression again as follows:

$$29.5306 \times \frac{1}{q} + 2.1707 \times m \times \frac{1}{q} + n \times d - f \times m \times \frac{1}{q} - al \times m \times \frac{1}{q}.$$

Now all these expressions connected by + or −, except,  $f \times m \times \frac{1}{q}$  may be calculated *once for all* for every *Nakshatra* in the lunar year, for

$$29.5306 \times \frac{1}{q} = 27.32167;$$

$$2.1707 \times m \times \frac{1}{q} = .16237;$$

And the expression  $(.16237 + n \times d - al \times m \times \frac{1}{q})$ , when calculated for each Nakshatra becomes one of the figures given in Table XI under "Interval between New Moon and each Nakshatra".

There remains  $f \times m \times \frac{1}{q}$ , whose maximum value is  $29.5306 \times m \times \frac{1}{q} = 2.20891$  (the difference between 29.530587946 and 27.321674163, the lengths of the synodical and sidereal months).

The values of  $f \times m \times \frac{1}{q}$ , less than the maximum, may be calculated by means of the Nakshatra correction Table in Table XI.

Accordingly all that we have to do, in order to know the mean ending moment of any Nakshatra, is to take the corresponding figure from the "Interval" Table XI and deduct the value of  $f \times m \times \frac{1}{q}$  as obtained from the "correction" table in Table XI.

*N.B.*—The correction tables might have been made additive instead of subtractive, by (1) subtracting all the quantities in the correction tables from 2·20890 in the case of Nakshatras and from 4·11036 in the case of Yogas, and (2) subtracting 2·20890 and 4·11036 respectively from all the intervals in the body of Table XI. This will be attended to in a future edition of the work, should a second edition be called for.

**264.** Thus, supposing the mean ending moment of *Mūla* Nakshatra in the month of (lunar) *Kārttika* in A.D. 1910, is required :—

The mean ending moment of *Kārttika* New Moon is (by Table X) November 2·30  
The integer and first two decimal places of the "Interval" for  
" *Kārttika Mūla* " (Table XI) 6·13

Nov. 8·43

Deduct  $f \times m \times \frac{1}{q}$ , i.e., the equivalent of 25·91 according to the correction  
table in Table XI;  $1·87 + ·07 = 1·94$ . —1·94

Nov. 6·49

This is the mean ending moment of the Nakshatra *Mūla* in Lunar *Kārttika*, A.D. 1910.

If we want the absolute ending moment, we calculate the anomaly :

	Days.
Moon's mean anomaly at commencement of Solar Year	... 0·535
Add increase of anomaly up to <i>Kārttika</i> New Moon	... 11·866
Add "Interval" less $f \times m \times \frac{1}{q}$	... 4·19

16·59

Corresponding Equation for Nakshatras (Table IX-*k*) ... +·246

Adding this equation to the mean ending moment, Nov. 6·49, we have Nov. 6·74 or (by the Eye-Table)  $44\frac{1}{2}$  ghaṭikas after mean sunrise on Nov. 6, A.D. 1910. We could, of course, if we had liked, have calculated the absolute ending moment to four places of decimals instead of to two.

**265.** *Yogas* are worked in the same manner, by using the corresponding portions of Table XI, i.e., by deducting from the "Yoga Interval". (for the given lunar month and given Yoga) the correction for the Solar Year according to the Yoga correction table in Table XI.

**266.** When a *Yoga* and *Nakshatra* are cited with the *tithi* as in the example in Sec. 98 *supra*, it will generally be enough to ascertain the nakshatra and the yoga which were concurrent with the *tithi* and this can most easily be done as follows :—

Sun's anomaly at ending moment of <i>tithi</i> , 203·31 days.	
By Table XVII-A, the ☉'s longitude corresponding to 203 days is	197·94°
" XVII-C, " " " " 31 day is	·31°

198·25°

The *tithi* being the 9th, the moon's elongation was  $9 \times 12^\circ =$  108·00°

Total 306·25°

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47					
	-	6	20			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.	11	39	44			89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.	-	18	15			(☉'s Yoga Eqn.) +					
July	11	21	29			8 59 25					

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

## CHAPTER XXIX.

## INVESTIGATION OF ADHIKA AND KSHAYA MONTHS.

**268.** *Adhika* months are the cream of the Indian Calendar, while *kshaya* months are its *crème de la crème*. Figures of speech apart, it is certainly true that the success or failure of any computer in deducing *adhika* and *kshaya* months is the measure of his success or failure in dealing, as a whole, with the Indian Calendar. How far the present method satisfies this ordeal, will be for competent judges to decide.

**269.** Two independent English lists of *adhika* and *kshaya* months are at present in existence, the first by Prof. **Chhatre** (reproduced in *Ind. Antiq.*, Vol. XXIII, pp. 105-108), and the second by Messrs. **Sewell** and **Dikshit**. The lists in **Patell's Chronology** and **Cunningham's Indian Eras** are obviously copied, without check, from Chhatre whose reputation was and is, sufficient to justify such a procedure.

Messrs. Sewell and Dikshit certainly exercised an independent and erudite judgment in revising Prof. Chhatre's list, and they declare, in several parts of their work, the indubitable superiority of their list to that of *Chhatre*.

**270.** For the purposes of Table X in the present work, it was necessary to weigh carefully the merits of Mr. Chhatre's and Mr. Dikshit's calculations wherever they differed. The palm must no doubt be awarded, as a general rule, to Mr. Dikshit, but he seems to have failed, by oversight, to take notice of the *kshaya* months in A.D. 507 and A.D. 751 which are investigated below.

## Adhika Months.

## A.D. 629.

**271.** In regard to this year Messrs. Sewell and Dikshit are at some pains to explain (under *Additions and Corrections*, p. 150 of "Indian Calendar") that Chhatre's entry of Adhika Kārttika is wrong and that their own entry of Adhika Āśvina is correct. Let us verify this statement, and in so doing, note the comparative brevity and simplicity of our method.

	Days.	☉'s and ☾'s Eqns.	☾'s Anom.
First New moon in Solar Year A.D. 629,	10·2145		20·456
Add for 7th New moon	177·1835	—·172	11·856
	<hr/>	—·342	<hr/>
	187·3980		32·312
	—·514	—·514	—·172 ☉'s Eqn.
	<hr/>		<hr/>
7th or Tulā Sankrānti 186·9355:	186·884		32·140
			27·555
			<hr/>
			4·585

The 7th new moon was therefore *Asvina*, and obviously the 6th new moon also was an *Asvina*; so that the Adhika month was, as stated by Messrs. Sewell and Dikshit, Āśvina, not as stated by Chhatre, Kārttika.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29		8	59	25				

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**A.D. 751.**

**274.** Only an *Adhika* Chaitra without a *kshaya* month is noted in this year by Messrs. Sewell and Dikshit, whereas Prof. Chhatre notes *Adhika* Kārttika and *Adhika* Chaitra besides *Mārgaśīra kshaya*. Let us work for the different new moons:—

	Days.	☉'s and ☾'s Eqns.	☾'s Anom.
First New moon in Solar Year A.D. 751:	10·3034	—·172	26·321
Add for 7th New moon	177·1835	—·304	11·856
(1) Beginning of 7th Solar month 186·9355 :	187·4869	—·476 = 187·011	38·177 —·172 (☉'s Eqn.) = 27·55 = 10·450
			27·555
		—·128	10·622
Add for 8th New moon	29·5306	—·133	1·976
(2) Beginning of 8th Solar month 216·828 :	217·0175	—·261 = 216·756	12·598 —·128 (☉'s Eqn.) = 12·470
		—·052	
Add for 9th New moon	29·5306	+·077	1·976
(3) Beginning of 9th Solar month 246·3192 :	246·5481	+·025 = 246·573	14·574 —·052 (☉'s Eqn.) = 14·522
		+·040	
Add for 10th New moon	29·5306	+·335	1·976
(4) Beginning of 10th Solar month 275·6369 :	276·0787	+·375 = 276·454	16·550 +·040 (☉'s Eqn.) = 16·590
		+·120	
Add for 11th New moon	29·5306	+·385	1·976
	305·6093	+·505	18·526
(5) Beginning of 11th Solar month 305·0850 :	305·6093	+·505 = 306·114	18·526 +·120 (☉'s Eqn.) = 18·646
		+·169	
Add for 12th New moon	29·5306	+·412	1·976
(6) Beginning of 12th Solar month 334·9053 :	335·1399	+·581 = 335·721	20·502 +·169 (☉'s Eqn.) = 20·671
		+·176	
Add for 13th New moon	29·5306	+·357	1·976
(7) End of 12th Solar month 365·25875 :	364·6705	+·533 = 365·203	22·478 +·176 (☉'s Eqn.) = 22·654

*N.B.*—The above is a convenient and concise method of working for *Adhika* and *Kshaya* months.

From (1) and (2) it follows [applying the rule in foot-note to p. (9) of the Text], that the 7th and 8th new moons were both Kārttika, the first of them being *Adhika*.

From (3) it follows that the 9th new moon was *Pausha*.

∴ The new moon between Kārttika and Pausha, viz., *Mārgaśīra* was *kshaya* and it is accordingly noted as such in our Table X.

From (4) it follows that the 10th new moon was *Māgha*.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



in 50 years and should be added to the precession, amounting, according to modern astronomy, to  $41^{\circ}52'27''$  for fifty years. The total difference between Indian sidereal and modern tropical longitudes is thus  $48^{\circ}58'53''$  for 50 years or  $59''$  per annum, while Bhāskara's estimate of the precession,  $59^{\circ}9'007''$  per annum, is only slightly larger.

**278.** If the slight annual displacement of the zero point of Indian longitudes, which is a practical postulate of Indian astronomy, however unrecognized in theory, is applied to the sidereal places of planets, their mean sidereal periods will have to be altered as shown above. In this manner alone will it be possible to apply to the planets the same precession as is applied to the sun, for the purpose of converting sidereal into tropical longitude.

*N.B.*—By taking this slight liberty with the mean sidereal periods of planets, the exact agreement of the mean place of any planet with its place in modern astronomy is secured, and the serious divergences between the two systems, commented on in Whitney's notes on the *Surya Siddhanta* have been effectually avoided. As a result, the place, whether mean or actual, assigned to any planet in Tables XVII and XVIII, may not tally exactly with Indian calculations, but the difference will generally be found to be very slight, while there is an obvious advantage in having for every possible epoch a mean place for each planet, identical with that assigned to it by modern astronomy.

**279.** The planetary anomalies and annual equations, which were used for Tables XVII and XVIII of this work, were taken from *Warren's Kāla Sankalita* and are ascribed by that author to a local Telugu Astronomer of the time, called *Vavilāla Kuchinna*. The tables are no doubt old-fashioned, but they are handy and sufficiently accurate for the purposes of Indian horoscope-chronology. This is the main reason for resuscitating them into present-day use.

**280.** The figures as to longitudes of apses and nodes and the greatest apparent latitudes of planets (Table XVII) are taken, partly from Warren and partly from the *Siddhanta Siromani*.

#### PART IV—PLANETS AND PLANETARY CHRONOLOGY.

**281.** Indian astronomy reckons nine planets, spoken of collectively as *navagrahas*, namely the Sun, Moon, Mars, Mercury, Jupiter, Venus, Saturn, Rahu and Ketu. It will be seen that the first seven are named in the order of the days of the week, and this is always the order in which they are referred to in Indian astronomy. Rahu is another name for the moon's ascending node, one of the points at which the moon's orbit cuts that of the Sun (the ecliptic), the other point, or the descending node, being called Ketu. An eclipse cannot happen except when the moon is at either node and the sun is at the same or the opposite node; hence the popular legend which depicts *Rahu* as a dragon swallowing up the moon or the sun at the time of an eclipse. All the planets, except Rahu and Ketu, move like the Sun, from West to East in their apparent path round the earth. Rahu moves in the opposite direction, and Ketu is always assigned a position  $180^{\circ}$  from that of Rahu.

**282.** All the data necessary for calculating the geocentric longitude and latitude of the five planets, Mars, Mercury, Jupiter, Venus and Saturn, are given at pages 200 to 206 of the Tables (Table XVII).

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

The mean longitude of a planet at any moment is obtained by adding together its mean longitude at the commencement of the century, the mean motion for the given odd year, and the mean motion for the given day. Thus for 202·54 days of the Indian Solar Year, A.D. 961 (Kaliyuga 4062) we have.—

Mars' mean longitude at commencement of K.Y. 4001,	Degrees, 79·4873
Mar's mean longitude for 61 years,	155·72
" " " 202 days,	105·85
" " " 54 day,	28·30

Answer 341·34°

**286.** This is the mean longitude of the planet in his path round the Sun, though not his longitude, as he appears to us from the earth. To obtain this, which is called the geocentric longitude, and which is the longitude usually cited in Indian chronology, we have to perform a fairly tedious sum. So far as the geocentric longitudes of the planets from A.D. 1840 to A.D. 1919 are concerned, the reader is saved the trouble of doing any such sum, because the geocentric longitudes, as finally determined for Lankâ Sunrise on every tenth day in each solar year from A.D. 1840 to A.D. 1919, are given in a handy form at pages 210 to 225 (Table XVIII), so that all he has to do to ascertain the position of the planets in a horoscope, say, for April 13, A.D. 1911, is to look up the particular day of the Solar Year (in this instance 0 day against A.D. 1911 on p. 224) and set down the positions of the planets as follows:—

Sun,  $357^{\circ} + 4 + 2 \cdot 7 = 360 \cdot 1$  or  $0 \cdot 1^{\circ}$  in Mesha;

Mars,  $298 \cdot 4^{\circ}$ , *i.e.*,  $28 \cdot 4^{\circ}$  in Makara;

Mercury,  $16 \cdot 3^{\circ}$  in Mesha;

Jupiter,  $198 \cdot 8^{\circ}$ , *i.e.*,  $18 \cdot 8^{\circ}$  in Tulâ;

Venus,  $31 \cdot 8^{\circ}$ , *i.e.*,  $1 \cdot 8^{\circ}$  in Vrishabha;

Saturn,  $14 \cdot 3^{\circ}$  in Mesha;

Rahu (Table XVII-B), A.D. 1911 :  $21 \cdot 90^{\circ}$  in Mesha.

(N.B.—Only mean places, and not actuals, are calculated for Rahu and Ketu).

Ketu (*vide* Sec. 281)  $21 \cdot 90^{\circ} +$  or  $- 180^{\circ} = 201 \cdot 90^{\circ}$ , *i.e.*,  $21 \cdot 90^{\circ}$  in Kanyâ. The result for Ketu is the same, whether  $180^{\circ}$  are added to, or deducted from, the longitude of Rahu.

**287.** The place of the moon, the only remaining planet, can be deduced either from the tithi or from the Nakshatra. The latter method is illustrated in Sec. 292 *infra*. The former, which is easier, is shown below:—

We first of all calculate the ending moment of the tithi, as usual.

	d.	gh.	☉'s Anom. d.	gh.	☾'s Anom. d.	gh.
(Tab. XII, p. 151) New Moon, March 1911	Mar. 29	57½	350	45	22	16½
(Eye-Table) Collective duration of 15 tithis	14	46	14	46	14	46
	Mar. 44	43½	365	31	37	2½
Deduct 1 anomalistic year and month respectively			365	15	27	33½
			0	16	9	29
(Eye-table) ☉'s Eqn. = + 10½ gh; ☾'s Eqn. = - 21 gh.			☉'s Eqn. + 10½			
Sum of ☉'s and ☾'s Eqns.		- 10½			9	39½
	Mar. 44	33	= 33 gh. on Ap. 13.			

This was the ending moment of the tithi, when the moon's elongation or distance from the sun was  $15 \times 12^\circ = 180^\circ$ . For the moon's longitude at any moment = moon's elongation *plus* Sun's Longitude. (Secs. 36, 254.)

Therefore, if we find the Sun's longitude at ending moment of tithi and add it to the moon's elongation,  $180^\circ$ , we shall obtain the moon's longitude, or which is the same thing, the Nakshatra current at ending moment of tithi.

☉'s Longitude at Sunrise =  $0.1^\circ$  (see above).

Do. at ending moment of tithi =  $0.1^\circ$  *plus* increase of longitude for 33 ghat.  
or  $\cdot 55$  of a day (Eye-Table.) This increase, by Table XVII-C is  $\cdot 54^\circ$ .

$\therefore$  ☉'s Longitude at ending moment of tithi =  $0.1^\circ + \cdot 54^\circ = 0.64^\circ$ .

$\therefore$  Moon's do. do. do. =  $180^\circ + 0.64^\circ = 180.64^\circ$ .

The corresponding Nakshatra (by Eye-Table) was *Chitrā*, and the Rāśi *Tulā*.

We want however the moon's longitude for sunrise on the same day which was 33 ghatikas or  $\cdot 55$  day (Eye-Table) earlier.

The increase of ☉'s Long. for  $\cdot 55$  day is roughly (Tab. XVII-D)  $7.33^\circ$

$\therefore$  ☉'s Long. at Sunrise 13 Ap. A.D. 1911 will be roughly  $180.64^\circ - 7.33^\circ = 173.31^\circ$

which will be  $23.3^\circ$  in Kanyā. The Nakshatra is *Hastā*. (Eye-Table.)

*N.B.*—In strictness we should have ascertained the total duration of the Nakshatra and the unexpired part of the Nakshatra at sunrise. If this was  $\cdot 50$ , Table XVII-D would give us  $6.6^\circ$  which we should deduct from  $180.64^\circ$ . Result  $174.0^\circ$  which is *Uttara* Nakshatra.

**288.** For years before A.D. 1840 the true geocentric longitudes of planets will have to be calculated in the following manner :—

The planets are divided into two classes: *Inferior* (Mercury and Venus) and *Superior* (Mars, Jupiter and Saturn.) Three quantities, which we may call *a*, *b*, *v*, in the case of the inferior planets, Mercury and Venus, and *A*, *B*, *N*, in the case of the superior planets, Mars, Jupiter and Saturn, have to be determined first of all, before working out the actual geocentric longitude of any planet. Having determined these three quantities, the further procedure is the same, whether the planet is superior or inferior. We give below the calculations (1) for an *inferior* planet, Mercury, and (2) for a *superior* planet, Mars, for 202.54 days of the Solar Year A.D. 961 (*i.e.*, 9 ghatikas after sunrise on 11th October A.D. 961.)

I. *True Geocentric Longitude of Mercury for 202.54 days of the Indian Solar Year A.D. 961-62.*

*Time and English date. 9 ghatikas after sunrise on 11th October A.D. 961.*

**MERCURY (Inferior Planet).**(1)—*a*. Mean Long. of Mercury *minus* Mean Long. of Sun.

	Mean Long. of Mercury.		Mean Long. of Sun.
For A.D. 900 (p. 201)	173°55'	202 days (XVII-A)	196°95'
61 years "	100°37'	54 day (XVII-C)	53'
202 days (p. 202)	106°65'		
54 day	2°21'		197°48'
	<u>382°78'</u>		
	Deduct 360°		
	<u>22°78'</u>		
			382°78'
			<u>—197°48'</u>
			185°30' <i>a</i>
(2)— <i>b</i> . Long. of Mercury's Apsis <i>minus</i> Sun's mean Long.			
Long. of Mercury's Apsis for A.D. 900 (p. 201)*		...	220°44'
Sun's mean Long. (as above):			<u>—197°48'</u>
			22°96' <i>b</i>
(3)— <i>v</i> . Mean Long. of Sun		...	197°48' <i>v</i>
(4) Mercury's annual equation for <i>a</i> (p. 202):		—	3°0' (4)
(5) Take half of (4) with reversed sign, and add to <i>b</i>		...	22°96'
		+	1°5'
			<u>24°5' (5)</u>
(6) Mercury's anomalistic equation for (5) (p. 202):		+	1°9' (6)
(7) Take half of (6), with reversed sign, and add to (5)		...	24°5'
		—	0°9'
			<u>23°6' (7)</u>
(8) Anomalistic equation of (7) (p. 202):		+	1°8' (8)
(9) Take (8), with reversed sign, and add to <i>a</i>		...	185°3'
		—	1°8'
			<u>183°5' (9)</u>
(10) Annual equation of (9) (p. 202):		—	2°0' (10)
(11) Add (8) and (10): +1°8' — 2°0' =		—	0°2' (11)
(12) Add <i>v</i> and (11): 197°48' — 0°2' =			197°3° (12)

This last result **197°3°** is the true **geocentric place of Mercury** for the moment in question.

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\* The apses and nodes of planets, except the moon, have such slow motions that their places need not be calculated for odd years and days.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.		-	18	15							
Sum - 18 gh. 15 p.		-	18	15							
	July	11	21	29						8	59

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX-i, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

Now by Table XVII-F the sine 101 belongs to an angle between  $0^\circ$  and  $3.75^\circ$   
 225 is the sine of  $3.75^\circ$

$$\therefore 101 \quad , \quad \frac{101 \times 3.75}{225} = 1.68^\circ$$

$\therefore$  The **latitude** of Mars sought is  $1.7^\circ$  which is South since (14) is above  $180^\circ$ .

**292.** *To find the longitude and latitude of the moon for the above moment.*

We should first of all find the moon's true longitude which we may calculate either from the tithi direct, with the aid of Table XVII-A and XVII-C (as we did in Sec. 287), or from the Nakshatra. We shall follow the latter method, although the former is easier.

The last New moon before our date (11 Oct. A.D. 961) was that on September 12.74 (Table X, p. 73). This was Āśvina New moon. The tithi for our date is that corresponding to the interval between Oct. 11.02 and Sep. 12.74, or between 41.02 and 12.74, *i.e.*, 28.28 days. This, by Eye-Table, is less than the interval for 29 tithis, which is 28.55 days.

As our Nakshatra must fall on the same day as the Tithi, we must take a Nakshatra in the lunar month of Āśvina, whose interval, after correction, shall be near 28.55 days.

The Nakshatra correction for A.D. 961 is (by Tab. XI) that for 26.47 days, *i.e.*, 1.95 (correction for 26 days) + .03 (correction for .47 day) = 1.98, and  $2.855 + 1.98 = 30.53$ . This is 1 day more than a lunar month and an interval of 30.53 days from Āśvina New moon takes us to 1 day from Kārttika New moon. The nearest interval to this in Table XI is 1.0757 days under Kārttika (col. VII), for which the Nakshatra is No. 14 *Chitrā*.

The interval for No. 14 Chitrā is 1.0757 days from Kārttika New moon,  
*i.e.*,  $1.08 + 29.53$  or 30.61 days from Āśvina New moon.

Deduct correction for A.D. 961       $-1.98$

Actual interval of No. 14 Nakshatra is 28.63 days from Āśvina New moon.

$\therefore$  Time of mean ending moment of No. 14 Nakshatra was Sep. 12.74 + 28.63  
 = Sep. 41.37 = Oct. 11.37.

The ☾'s anomaly for the ending moment of the Nakshatra: 7.09 (Anomaly of First New moon in solar year A.D. 961, *vide* Tab. X, p. 72) + 9.88 (addition for ☾'s Anom. at Āśvina New moon: Table X, head line) + 28.63 (actual interval from Āśvina New moon to No. 14 Nakshatra) = 45.60 days, from which deduct 1 anom. month, 27.55. Remainder, 18.05 days.

The Nakshatra eqn. for 18.05 days is +.333 (Table IX-*k*). Nak. No. 14 Chitrā ended therefore on Oct. 11.37 + .33 = Oct. 11.70 or 42 ghaṭikas after sunrise (Eye-Table). The moment for which we want the moon's true place is earlier than this by .55 day, which (by Table XVII-D) corresponds to 7.33 degrees of moon's longitude. (See, however, *N.B.* to Section 287.)

At the ending moment of No. 14 Nak. the **moon's longitude** is  $186.7^\circ$  (Eye-Table); the true place of moon at the moment now in question (9 ghaṭikas. after sunrise on 11 Oct. A.D. 169) was, therefore,  $186.7^\circ - 7.3^\circ = 179.4^\circ$ .



**293.** Now to find the Moon's latitude at the moment sought.

- (1) Find the place of Moon's node,
- i.e.*
- , Rahu.

By Table XVII-B place of Rahu for A.D. 900 is ... 147°65'

By same table Rahu's motion for 61 years, 100°52'

*N.B.*—Remember that Rahu's mean motion for odd years and days should be subtracted from the mean place for century—*vide* Sec. 295 (4).

200 days,	10°60'
54 day,	03

61 yrs. 200°54 days = 111°13'	—111°13'
-------------------------------	----------

- |        |     |
|--------|-----|
| 36°52' | (1) |
| 179°4' |     |
- (2) Moon's true place *minus* place of her node ...

—36°5'
--------

- |        |     |
|--------|-----|
| 142°9' | (2) |
|--------|-----|
- (3) Sine of (2) by Table XVII-F ...

- |      |     |
|------|-----|
| 2094 | (3) |
|------|-----|
- (4) Multiply (3) by  $\frac{270}{3438}$ , as a constant for the moon:  $\frac{2094 \times 270}{3438} = 164$ .

By Table XVII-F, 225 is the sine of 3°75'

$$\therefore 164 \quad \text{,,} \quad \frac{164 \times 3.75}{225} = 2.73^\circ$$

Inasmuch as (2) is less than 180°, the **latitude** sought is **2°73'** North.**294.** The reader should note—

- (a) that for Venus the procedure is the same as for Mercury;
- (b) that for Jupiter and Saturn, the procedure is the same as for Mars;
- (c) that for Mercury and Venus, the geocentric longitude has for its basis the Sun's mean longitude and not that of the planet; whereas the geocentric places of Mars, Jupiter and Saturn are based on their respective mean longitudes;
- (d) that we may always subtract a larger number of degrees from a smaller by adding 360° to the smaller number, as we did for (1) *a* on p. (106), for (1) *A* on p. (107) and for (2) *B* on p. (108);
- (e) that the apsis of any planet except the moon does not change materially in position during a century, and that therefore we need not calculate the change of apsis for odd years or odd days; [*vide* foot note on p. (106)].
- (f) that after calculating *a*, *b* and *v*, and *A*, *B* and *N*, respectively, the procedure is the same for all planets, whether inferior or superior;
- (g) that the mean longitudes of planets for decimals of a day may be obtained from the longitude for odd days by prefixing decimals to the latter. Only we should remember that a mean revolution of Mercury is completed in 87 days and a mean revolution of Venus in 225 days, [*vide* Sec. 276] and the increase of Mercury's longitude for .89 day is not 0°422', but 3°6422'. Similarly, the increase of Venus' longitude for .231 day is not 0°1009', but 37°009';

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.								
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25
July	11	21	29				8	59

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

(8) For dates *between* every 10th day which is shown in Table XVIII, take proportional parts.

Thus, position of Mercury on 23 May 1910 is  $44.1^\circ$   
 Do. do. do. 2 June 1910 is  $36.6^\circ$

Difference for 10 days =  $7.5^\circ$

$\therefore$  Difference for 6 days =  $\frac{6}{10} \times 7.5 = 4.55^\circ$

$\therefore$  Position of Mercury at Ujjain sunrise on 29 May 1910 is  $44.1^\circ - 4.55^\circ = 39.6^\circ$ .

*N.B.*—Except in A.D. 1905, A.D. 1909 and A.D. 1913, the actual places of Mercury from A.D. 1886 to A.D. 1919 are practically identical with those for A.D. 1840 to 1873. In other words, Mercury's actual places follow in general a cycle of 46 years. Compare Sec. 228 regarding the moon's cycle of 46 years.

(9) The interval between the 360th day of each solar year and the 0 day of next solar year is either 5 or 6 days according as the former Indian solar year is one of 365 or 366 days. To ascertain this point, refer to Table X: if the fraction of day at which a year commences increases beyond unity in the next year, the year with the former fraction is one of 366 days; where there is no increase of fraction, the length of the year in integral days is 365.

Thus, fraction of day for commencement of A.D. 1909-10 is .9492

Do. do. do. 1910-11 is .2080

Do. do. do. 1911-12 is .4667

We infer that A.D. 1909-10 (Indian Solar Year) is a year of 366 days and that A.D. 1910-11 and A.D. 1911-12 are years of 365 days each. Of course an Indian Solar Year with 366 days will not, except by chance, correspond with an English leap year.

The difference in the longitude of any planet between the 360th day of one solar year and 0 day of the next solar year should be divided by 5 or 6 (according as the year is one of 365 or 366 days) in order to get the difference of longitude for *one day* during that interval, and the difference for one day should be multiplied by as many days as we want.

(10) Two English dates are marked in Table XVIII (just as in Table VIII, *vide* Sec. 215), when there is a possibility of a year with Feb. 29 alternating with a year in which February has only 28 days. Thus under 330th day on p. 225, "March 6, 7" is entered, which means that if before reaching either of these dates we have passed "February 29", March 6 is the equivalent of the 330th day of the Solar Year, otherwise March 7 is the 330th day.

(11) The positions marked in Table XVIII are all for Ujjain sunrise and any given moment for which we wish to verify or construct a horoscope should first be reduced to Ujjain time by adding or deducting the total correction for the place, day of the solar year and latitude shown in Table XIII or Table XIII-A. Of course the reader will remember that corrections shown in Table XIII are intended to enable him to obtain local time *from Ujjain time*, and that to obtain Ujjain time *from local time*, the signs of the corrections must be reversed.

(12) It is assumed that the reader knows the ordinary facts about the apparent motions of planets, *i.e.*, they are occasionally stationary or nearly so, and often in retrogression; that any planet is in conjunction with another whose longitude is the same; and in opposition when the distance between the longitudes of the two planets is  $180^\circ$ .

(13) The houses or signs in which the planets are situated according to Table XVII show only *occupation* (in the language of astrology). *Ownership* or *lordship* of houses by planets is purely an astrological convention and has nothing to do with astronomy.

(14) The entries at foot of Table XVIII show the limits or *ending* points of signs or *rāsis* and *nakshatras*, while the Eye-Table gives the longitude at *commencement* of each *Rāsi* or *Nakshatra*. Both sets of entries will be found very useful, and examples of their use are given throughout this work : see for example Sections **49, 186, 266, 287** ; foot-note to p. (45) of the text, etc.

(15) In order to keep the present work within its proper limits, it has been considered essential that the information furnished by it shall be such as will be directly useful for chronological investigation. That it may serve indirectly the purposes of Indian astrology is from the nature of the case, inevitable, but *judicial* astrology, or the interpretation of planetary phenomena for astrological purposes, is entirely beyond the author's scope : and it has been finally decided not to include in this book any criticism of judicial astrology.

#### **Construction of Indian Horoscopes.—Navamsas.**

**296.** Indian usage has, for a long time past, adopted a well-known method of exhibiting the places of planets at particular moments. This is the familiar horoscope, which, relieved of its astrological excrescence, has a scientific value as a chronological record ; since a genuine horoscope may, by the exercise of a little ingenuity, be always referred to its date, however remote that date may be, and even though there may not be a single figure indicative of an era or a year. It is for this chronological reason that horoscopes are introduced into this work.

Having ascertained the longitudes of planets and the lagna, which is merely a device for indicating the time of day without the use of figures (see Sections **71 to 76**), we may exhibit them in the form of a horoscope, as shown on the next page. This is a horoscope for the moment already examined, *viz.*, sunrise on 13 April 1911, being 0 day of the Indian Solar Year A.D. 1911-12, Kaliyuga 5012.

**297.** It might seem at first sight that the first of these tables, which distributes the planets among 12 signs of 30 degrees each, cannot serve the purposes of an accurate chronological record. It is a fact, however, that no other horoscope within perhaps 5000 years will be exactly like this one : and given such a horoscope as this, one may, without further indications, though after some trouble, discover the year ; and once the year is discovered, the month, day and hour can be identified in a few minutes.

**298.** In practice, it is usual for the astrologer or chronologer to frame a more detailed record, and as Indian tradition demands that figures should, as far as practicable, be dispensed with in chronological records, the details of degrees in a horoscope are given by means of a *Navāmsā* scheme such as that shown on the next page. In the *Navāmsā* scheme, each sign of 30° is sub-divided into 9 *Navāmsās*, whence their name, and 12 such *Navāmsās* constitute a full horoscope. Table XXI compares the *Rāsis* and *Navāmsās*, and shows how, given a *Rāsi* and the corresponding *Navāmsā*, the exact position of a planet can be indicated within three degrees. For instance, if we know that Śukra is in *Rāsi Yrishabha* (II) and *Navāmsā Makara* (X) we can, from the *Navāmsā* Table XXI, find that Śukra must be between 30° and 33° 30' ; this is a fairly close approximation to the exact longitude.

Other divisions of the *Rāsis* into *dvādasāmsas* (12 divisions of 2½ degrees each), *triṃśāmsas* (30 divisions of a degree each) and *śaśthiāmsas* (60 divisions of half a degree each), will be self-evident.

<b>XII</b> <b>Mina</b> OR <b>Pisces.</b>	<b>I</b> <b>Mesha OR Aries</b> Lagna Sun or Ravi Mercury or Budha Saturn or Sani Rahu.	<b>II</b> <b>Vrishabha</b> OR <b>Taurus</b> Venus or Sukra.	<b>III</b> <b>Mithuna</b> OR <b>Gemini.</b>
<b>XI</b> <b>Kumbha</b> OR <b>Aquarius.</b>	<b>RASI.</b>		<b>IV</b> <b>Kataka</b> OR <b>Cancer.</b>
<b>X</b> <b>Makara</b> OR <b>Capricornus</b> Mars or Kuja.			<b>V</b> <b>Simha</b> OR <b>Leo.</b>
<b>IX</b> <b>Dhanus</b> OR <b>Sagittarius.</b>	<b>VIII</b> <b>Vrischika</b> OR <b>Scorpio.</b>	<b>VII</b> <b>Tula</b> OR <b>Libra</b> Jupiter or Guru Ketu.	<b>VI</b> <b>Kanya</b> OR <b>Virgo</b> Moon or Chandra.

<b>XII</b> <b>Mina</b> Guru.	<b>I</b> <b>Mesha</b> Lagna Ravi.	<b>II</b> <b>Vrishabha.</b>	<b>III</b> <b>Mithuna.</b>
<b>XI</b> <b>Kumbha.</b>	<b>NAVAMSA.</b>		<b>IV</b> <b>Kataka</b> Chandra.
<b>X</b> <b>Makara</b> Sukra.			<b>V</b> <b>Simha</b> Budha Sani.
<b>IX</b> <b>Dhanus.</b>	<b>VIII</b> <b>Vrischika.</b>	<b>VII</b> <b>Tula</b> Rahu.	<b>VI</b> <b>Kanya</b> Kuja.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE I.

Corresponding A.D. years—(Centuries A.D. in heavy type).

(N.B.—The Indian year begins in March or April of the A.D. year.)

Names of years in Jupiter's Cycle. (S. India.)																			
1 Prabhava ...	9	67	10	27	10	87	11	47	12	07	12	67	13	27	13	87	14	47	15
2 Vibhava ...	68	28	88	48	08	68	28	88	48	08	68	28	88	48	08	68	28	88	48
3 Sukla ...	69	29	89	49	09	69	29	89	49	09	69	29	89	49	09	69	29	89	49
4 Pramodhuta ...	70	30	90	50	10	70	30	90	50	10	70	30	90	50	10	70	30	90	50
5 Prajapati ...	71	31	91	51	11	71	31	91	51	11	71	31	91	51	11	71	31	91	51
6 Angirasa ...	72	32	92	52	12	72	32	92	52	12	72	32	92	52	12	72	32	92	52
7 Srimukha ...	73	33	93	53	13	73	33	93	53	13	73	33	93	53	13	73	33	93	53
8 Bhava ...	74	34	94	54	14	74	34	94	54	14	74	34	94	54	14	74	34	94	54
9 Yuva ...	75	35	95	55	15	75	35	95	55	15	75	35	95	55	15	75	35	95	55
10 Dhatri ...	76	36	96	56	16	76	36	96	56	16	76	36	96	56	16	76	36	96	56
11 Isvara ...	77	37	97	57	17	77	37	97	57	17	77	37	97	57	17	77	37	97	57
12 Bahudhanya ...	78	38	98	58	18	78	38	98	58	18	78	38	98	58	18	78	38	98	58
13 Pramathi ...	79	39	99	59	19	79	39	99	59	19	79	39	99	59	19	79	39	99	59
14 Vikrama ...	80	40	11	00	60	20	80	40	14	00	60	20	80	40	17	00	60	20	80
15 Vrisha ...	81	41	01	61	21	81	41	01	61	21	81	41	01	61	21	81	41	01	61
16 Chitrabhanu ...	82	42	02	62	22	82	42	02	62	22	82	42	02	62	22	82	42	02	62
17 Subhanu ...	83	43	03	63	23	83	43	03	63	23	83	43	03	63	23	83	43	03	63
18 Tarana ...	84	44	04	64	24	84	44	04	64	24	84	44	04	64	24	84	44	04	64
19 Parthiva ...	85	45	05	65	25	85	45	05	65	25	85	45	05	65	25	85	45	05	65
20 Vyaya ...	86	46	06	66	26	86	46	06	66	26	86	46	06	66	26	86	46	06	66
21 Sarvajit ...	87	47	07	67	27	87	47	07	67	27	87	47	07	67	27	87	47	07	67
22 Sarvadhari ...	88	48	08	68	28	88	48	08	68	28	88	48	08	68	28	88	48	08	68
23 Virodhi ...	89	49	09	69	29	89	49	09	69	29	89	49	09	69	29	89	49	09	69
24 Vikrita ...	90	50	10	70	30	90	50	10	70	30	90	50	10	70	30	90	50	10	70
25 Khara ...	91	51	11	71	31	91	51	11	71	31	91	51	11	71	31	91	51	11	71
26 Nandana ...	92	52	12	72	32	92	52	12	72	32	92	52	12	72	32	92	52	12	72
27 Vijaya ...	93	53	13	73	33	93	53	13	73	33	93	53	13	73	33	93	53	13	73
28 Jaya ...	94	54	14	74	34	94	54	14	74	34	94	54	14	74	34	94	54	14	74
29 Manmatha ...	95	55	15	75	35	95	55	15	75	35	95	55	15	75	35	95	55	15	75
30 Durmukha ...	96	56	16	76	36	96	56	16	76	36	96	56	16	76	36	96	56	16	76
31 Hemalamba ...	97	57	17	77	37	97	57	17	77	37	97	57	17	77	37	97	57	17	77
32 Vilamba ...	98	58	18	78	38	98	58	18	78	38	98	58	18	78	38	98	58	18	78
33 Vikari ...	99	59	19	79	39	99	59	19	79	39	99	59	19	79	39	99	59	19	79
34 Sarvari ...	10	00	60	20	80	40	13	00	60	20	80	40	16	00	60	20	80	40	19
35 Plava ...	01	61	21	81	41	01	61	21	81	41	01	61	21	81	41	01	61	21	81
36 Subhakrit ...	02	62	22	82	42	02	62	22	82	42	02	62	22	82	42	02	62	22	82
37 Sobhana ... (Sobhakrit)	03	63	23	83	43	03	63	23	83	43	03	63	23	83	43	03	63	23	83
38 Krodhi ...	04	64	24	84	44	04	64	24	84	44	04	64	24	84	44	04	64	24	84
39 Visvavasu ...	05	65	25	85	45	05	65	25	85	45	05	65	25	85	45	05	65	25	85
40 Parabhava ...	06	66	26	86	46	06	66	26	86	46	06	66	26	86	46	06	66	26	86
41 Plavanga ...	07	67	27	87	47	07	67	27	87	47	07	67	27	87	47	07	67	27	87
42 Kilaka ...	08	68	28	88	48	08	68	28	88	48	08	68	28	88	48	08	68	28	88
43 Saumya ...	09	69	29	89	49	09	69	29	89	49	09	69	29	89	49	09	69	29	89
44 Sadharana ...	10	70	30	90	50	10	70	30	90	50	10	70	30	90	50	10	70	30	90
45 Virodhakrit ...	11	71	31	91	51	11	71	31	91	51	11	71	31	91	51	11	71	31	91
46 Paridhavi ...	12	72	32	92	52	12	72	32	92	52	12	72	32	92	52	12	72	32	92
47 Pramadhya ...	13	73	33	93	53	13	73	33	93	53	13	73	33	93	53	13	73	33	93
48 Ananda ...	14	74	34	94	54	14	74	34	94	54	14	74	34	94	54	14	74	34	94
49 Rakshasa ...	15	75	35	95	55	15	75	35	95	55	15	75	35	95	55	15	75	35	95
50 Anala (Nala) ...	16	76	36	96	56	16	76	36	96	56	16	76	36	96	56	16	76	36	96
51 Pingala ...	17	77	37	97	57	17	77	37	97	57	17	77	37	97	57	17	77	37	97
52 Kalayukta ...	18	78	38	98	58	18	78	38	98	58	18	78	38	98	58	18	78	38	98
53 Siddharthi ...	19	79	39	99	59	19	79	39	99	59	19	79	39	99	59	19	79	39	99
54 Raudra ...	20	80	40	12	00	60	20	80	40	15	00	60	20	80	40	18	00	60	20
55 Durmati ...	21	81	41	01	61	21	81	41	01	61	21	81	41	01	61	21	81	41	01
56 Dundubhi ...	22	82	42	02	62	22	82	42	02	62	22	82	42	02	62	22	82	42	02
57 Rudhiredgari ...	23	83	43	03	63	23	83	43	03	63	23	83	43	03	63	23	83	43	03
58 Raktaksha ...	24	84	44	04	64	24	84	44	04	64	24	84	44	04	64	24	84	44	04
59 Krodhana ...	25	85	45	05	65	25	85	45	05	65	25	85	45	05	65	25	85	45	05
60 Kshaya (Akshaya) ...	26	86	46	06	66	26	86	46	06	66	26	86	46	06	66	26	86	46	06

TABLE II.

Surya Siddhanta.							Arya Siddhanta.			
Signs of Zodiac ; also names of Malabar Months.	Lunar Months ; also Bengal Solar Months.	Tamil Solar Months.	Number of days in each Solar Month.	Moment of Sankranti ; or No. of days up to beginning of each Solar Month.	Moment of each New Moon; or No. of days up to beginning of each Lunar Month.	Increase of C's anomaly up to beginning of each Lunar Month.		No. of days in Anomalistic Months.	No. of days in each Solar Month.	Moment of Sankranti ; or No. of days up to beginning of each Solar Month.
Mesha (Mal. Medam)	Vaisakha	Chittirai	30-93528	...	...	...	1	27-5546	30-92500000	...
Vrishabha (Mal. Edavam)	Jyeshtha	Vaikasi	31-42028	30-93528	29-53059	1-976	2	55-1092	31-40111111	30-925000
Mithuna	Ashada	Ani	31-64472	62-35555	59-06117	3-952	3	82-6638	31-60722222	62-3261111
Karkata	Sravana	Adi	31-47528	94-00028	88-59176	5-928	4	110-2184	31-46777777	93-9333333
Simha	Bhadrapada	Avani	31-01861	125-47555	118-12235	7-904	5	137-7730	31-03472222	125-4011111
Kanya	Asvina	Purattasi	30-44138	156-49417	147-65293	9-880	6	165-3276	30-45666666	156-4358333
Tula	Kartika	Aippasi	29-89333	186-93555	177-18353	11-856	7	192-8822	29-90333333	186-8925000
Vrischika	Margasira	Kartikai	29-49027	216-82888	206-71411	13-832	8	220-4368	29-50861111	216-7958333
Dhanus	Pausha	Margali	29-31777	246-31916	236-24470	15-808	9	247-9914	29-35055555	246-3044444
Makara	Magha	Tai	29-44805	275-63694	265-77529	17-784	10	275-5460	29-45666666	275-6550000
Kumbha	Phalguna	Masi	29-82027	305-08499	295-30588	19-760	11	303-1006	29-80833333	305-1116666
Mina	Chaitra	Panguni	30-35348	334-90527	324-83647	21-736	12	330-6552	30-33876157	334-9200000
				365-25875	354-36705	23-712	13	358-2098		365-2586805
					383-89764	25-688				

## Limits of Adhika months.

	Before.		Before.		After.	Before.
Vaisakha	1-40469	Bhadrapada	8-84122	...	...	...
Jyeshtha	3-29438	Asvina	9-75201	Phalguna	9-77912	10-06880
Ashada	5-40851	Kartika	10-11475	Chaitra	10-06880	10-89170
Sravana	7-35320	...	...	...	...	...

## Limits of Kshaya months.

	After.	Before.
Margasira	10-07446	10-11475
Pausha	9-86164	10-07447
Magha	9-77910	9-86164
...	...	...

## Tithis.

Duration of Tithis.		Names of Tithis.	Duration of Tithis.		Names of Tithis.	Duration of Tithis.		Names of Tithis.
days.			days.			days.		
0-98435	1	Sukla Pratipada	10-82788	11	Sukla Ekadasi	20-67141	6	Krishna Shashti
1-96870	2	Do. Dvitiya	11-81223	12	Do. Dvadasi	21-65576	7	Do. Saptami
2-95306	3	Do. Tritiya	12-79659	13	Do. Trayodasi	22-64012	8	Do. Ashtami
3-93741	4	Do. Chathurthi	13-78094	14	Do. Chaturdasi	23-62447	9	Do. Navami
4-92176	5	Do. Panchami	14-76529	15	Paurnami	24-60882	10	Do. Dasami
5-90612	6	Do. Shashti	15-74965	1	Krishna Pratama	25-59318	11	Do. Ekadasi
6-89047	7	Do. Saptami	16-73400	2	Do. Dvitiya	26-57753	12	Do. Dvadasi
7-87482	8	Do. Ashtami	17-71835	3	Do. Tritiya	27-56188	13	Do. Trayodasi
8-85918	9	Do. Navami	18-70270	4	Do. Chathurthi	28-54623	14	Do. Chaturdasi
9-84353	10	Do. Dasami	19-68706	5	Do. Panchami	29-53059	15	Amavasya



TABLE III.

Nakshatras.					Yogas		
Order and names of Nakshatras.	Collective duration of Nakshatras (equal space).	Deities presiding over Nakshatras.	Duration of Nakshatras. (Garga.)	Duration of Nakshatras. (Brahma.)	Nakshatras and Yogas in lunation space.	Names of Yogas.	Collective duration of Yogas.
	days.		days.	days.	days.		days.
1 Asvini	1-01191	Asvin	1-01191	1-0	1 1-09372	1 Vishkamba.	0-94149
2 Bharani	2-02383	Yama	1-51787	1-5	2 2-18745	2 Priti ...	1-88298
3 Krittika	3-03574	Agni	2-52978	2-5	3 3-28118	3 Ayushmat ...	2-82447
(Tam. Kiruttigai)					4 4-37490	4 Saubhagya.	3-76596
4 Rohini	4-04765	Prajapati	4-04765	4-0	5 5-46863	5 Sobhana ...	4-70745
5 Mrigasira	5-05957	Soma	5-05956	5-0			
(Tam. Mirugasiram)					6 6-56235	6 Atiganda ...	5-64894
6 Ardhra	6-07148	Rudra	5-56552	5-5	7 7-65608	7 Sukarman ...	6-59043
(Tam. Arudra or Tiru-vadira)					8 8-74980	8 Dhriti ...	7-53192
7 Punarvasu	7-08340	Aditi	7-08339	7-0	9 9-84353	9 Sula ...	8-47341
8 Pushya	8-09531	Brihaspati	8-09531	8-0	10 10-93725	10 Ganda ...	9-41489
(Tam. Pusam)							
9 Aslesha	9-10722	Sarpah	8-60126	8-5	11 12-03098	11 Vriddhi ...	10-35638
(Tam. Ayilyam)					12 13-12470	12 Dhruva ...	11-29787
10 Magha	10-11914	Pitarah	9-61318	9-5	13 14-21843	13 Vyaghata ...	12-23936
(Tam. Magham)					14 15-31216	14 Harshana ...	13-18085
11 Purva Phalguni	11-13105	Bhaga	10-62510	10-5	15 16-40588	15 Vajra ...	14-12234
(Tam. Puram)							
12 Uttara Phalguni	12-14297	Aryaman	12-14297	12-0	16 17-49961	16 Siddhi ...	15-06383
(Tam. Uttiram)					17 18-59333	17 Vyatipata ...	16-00532
13 Hasta	13-15488	Savitri	13-15488	13-0	18 19-68706	18 Variyas ...	16-94681
(Tam. Hastam)					19 20-78078	19 Parigha ...	17-88830
14 Chitra	14-16679	Tvashtri	14-16679	14-0	20 21-87451	20 Siva ...	18-82979
(Tam. Chittirai)							
15 Svati	15-17871	Vayu	14-67275	14-5	21 22-96823	21 Siddha ...	19-77128
16 Visakha	16-19062	Indraghi	16-19062	16-0	22 24-06196	22 Sadhya ...	20-71277
(Tam. Visakam)					23 25-15569	23 Subha ...	21-65426
17 Anuradha	17-20273	Mitra	17-20253	17-0	24 26-24941	24 Sukla ...	22-59575
(Tam. Anusham)					25 27-34314	25 Brahman ...	23-53724
18 Jyeshtha	18-21445	Indra	17-70849	17-5			
(Tam. Kettai)					26 28-43686	26 Indra ...	24-47873
19 Mula	19-22636	Nirriti	18-72040	18-5	27 29-53059	27 Vaidhriti ...	25-42022
(Tam. Mulam)							
20 Purva Ashada	20-23828	Apah	19-73232	19-5			
(Tam. Puradam)							
21 Uttara Ashada	21-25019	Visvadeva	21-25019	21-0			
(Tam. Uttiradam)		Brahma		21-3217			
				(Abhijit)			
22 Sravana	22-26210	Vishnu	22-26210	22-3217			
(Tam. Tiruvonam)							
23 Sravishta or Danishta	23-27402	Vasava	23-27401	23-3217			
(Tam. Avittam)							
24 Satabhisaj or Sataraka	24-28593	Varuna	23-77997	23-8217			
(Tam. Sadayam)							
25 Purva Bhadrapada	25-29785	Aja Ekpad	24-79188	24-8217			
(Tam. Purattadi)							
26 Uttara Bhadrapada	26-30976	Ahi Budhnya	26-30975	26-3217			
(Tam. Uttirattadi)							
27 Revati	27-32167	Pushan	27-32167	27-3217			

## Karanas.

Kimstughna ...	1,	58=Sakuni.
Bava ...	2, 9, 16, 23, 30, 37, 44, 51,	59=Naga.
Balava ...	3, 10, 17, 24, 31, 38, 45, 52,	60=Chatushpada.
Kaulava ...	4, 11, 18, 25, 32, 39, 46, 53,	
Taitila ...	5, 12, 19, 26, 33, 40, 47, 54,	
Gara ...	6, 13, 20, 27, 34, 41, 48, 55,	
Banija ...	7, 14, 21, 28, 35, 42, 49, 56,	
Vishti ...	8, 15, 22, 29, 36, 43, 50, 57,	
(or Bhadra.)		

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE VI.

## Surya Siddhanta Constants for Centuries.

Year A.D.	Kaliyuga.	Commence- ment of Solar Year.	Month and Date.	Frac- tion of day.	First new moon in Solar Year.	( 's anomaly at commencement of Solar Year.
1 B.C.	3101	13M	·98310		9-99810	12-73835
100 A.D.	3201	14M	·85875		13-45974	1-21454
200	3301	15M	·73440		16-92138	17-24532
300	3401	16M	·61004		20-38302	5-72151
400	3501	17M	·48569		23-84466	21-75228
500	3601	18M	·36134		27-30630	10-22845
600	3701	19M	·23698		1-23735	26-25922
700	3801	20M	·11264		4-69899	14-73539
800	3901	20M	·98828		8-16063	3-21156
900	4001	21M	·86393		11-62227	19-24239
1000	4101	22M	·73958		15-08391	7-71850
1100	4201	23M	·61523		18-54556	23-74927
1200	4301	24M	·49088		22-00720	12-22544
1300	4401	25M	·36652		25-46884	0-70161
1400	4501	26M	·24217		28-93048	16-73238
1500	4601	27M	·11782		2-86153	5-20855
1600	4701	27M	·99347		6-32317	21-35937
1700	4801	28M	·86912		9-78481	9-83810
1800	4901	10Ap	·74477		13-24645	25-87144
1900	5001	12Ap	·62041		16-70809	14-35017

## Arya Siddhanta Constants for Centuries.

Year A.D.	Kaliyuga.	Commence- ment of Solar Year.	Month and Date.	Frac- tion of day.	First new moon in Solar Year.	( 's anomaly at commencement of Solar Year.
1 B.C.	3101	14M	·020832		9-97497	12-44500
100 A.D.	3201	14M	·888887		13-43662	0-91097
200	3301	15M	·756943		16-89826	16-93155
300	3401	16M	·624998		20-35990	5-39752
400	3501	17M	·493054		23-82154	21-41810
500	3601	18M	·361109		27-28318	9-88407
600	3701	19M	·229165		1-22789	25-95007
700	3801	20M	·097220		4-70320	14-46145
800	3901	20M	·965276		8-17851	2-97285
900	4001	21M	·833331		11-65383	19-03883
1000	4101	22M	·701387		15-12914	7-55022
1100	4201	23M	·569442		18-60446	23-61622
1200	4301	24M	·437498		22-07977	12-12760
1300	4401	25M	·305553		25-55508	0-63900
1400	4501	26M	·173609		29-03039	16-70498
1500	4601	27M	·041664		2-97511	5-21637
1600	4701	27M	·909720		6-45043	21-28237
1700	4801	28M	·777775		9-92574	9-79375
1800	4901	10Ap	·645831		13-40105	25-85975
1900	5001	12Ap	·513886		16-87636	14-37114

Subsidiary Table VI (a) Difference between Moon's and Sun's Longitude in days ( $360^\circ = 29-5305880$  days).

Degrees.	Day.	Minutes of degree.	Fraction of day.	Minutes of degree.	Fraction of day.	Minutes of degree.	Fraction of day.	Seconds of degree.	Fraction of day.	Seconds of degree.	Fraction of day.	Seconds of degree.	Fraction of day.
1	·0820294	1	·0013671	23	·0314447	45	·0615220	1	·0000228	23	·0005241	45	·0010254
2	·1640588	2	·0027343	24	·0328118	46	·0628892	2	·0000456	24	·0005469	46	·0010481
3	·2460882	3	·0041015	25	·0341789	47	·0642564	3	·0000683	25	·0005696	47	·0010707
4	·3281176	4	·0054687	26	·0355461	48	·0656235	4	·0000911	26	·0005924	48	·0010937
5	·4101471	5	·0068358	27	·0369132	49	·0669907	5	·0001139	27	·0006152	49	·0011165
6	·4921765	6	·0082030	28	·0382804	50	·0683578	6	·0001367	28	·0006380	50	·0011393
7	·5742059	7	·0095700	29	·0396475	51	·0697250	7	·0001595	29	·0006608	51	·0011621
8	·6562353	8	·0109373	30	·0410147	52	·0710921	8	·0001823	30	·0006836	52	·0011849
9	·7382647	9	·0123044	31	·0423819	53	·0724593	9	·0002051	31	·0007064	53	·0012076
10	·8202941	10	·0136716	32	·0437490	54	·0738265	10	·0002278	32	·0007291	54	·0012304
20	1-6405882	11	·0150387	33	·0451162	55	·0751936	11	·0002506	33	·0007519	55	·0012532
30	2-4608823	12	·0164059	34	·0464833	56	·0765608	12	·0002734	34	·0007747	56	·0012760
40	3-2811764	13	·0177730	35	·0478505	57	·0779279	13	·0002962	35	·0007975	57	·0012988
50	4-1014705	14	·0191402	36	·0492176	58	·0792951	14	·0003190	36	·0008203	58	·0013216
60	4-9217647	15	·0205073	37	·0505848	59	·0806622	15	·0003418	37	·0008434	59	·0013444
70	5-7420588	16	·0218745	38	·0519520			16	·0003646	38	·0008659	60	·0013671
80	6-5623529	17	·0232417	39	·0533191			17	·0003874	39	·0008886		
90	7-3826470	18	·0246088	40	·0546863			18	·0004101	40	·0009114		
100	8-2029411	19	·0259760	41	·0560534			19	·0004329	41	·0009342		
200	16-4058822	20	·0273431	42	·0574206			20	·0004557	42	·0009570		
300	24-6088233	21	·0287103	43	·0587877			21	·0004785	43	·0009798		
360	29-5305880	22	·0300775	44	·0601549			22	·0005013	44	·0010026		

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE VII—contd.**  
**Arya Siddhanta—Odd years.**

	Fraction of day, marking commencement of Solar Year.	First new moon in Solar Year.	C's anomaly for beginning of Solar Year.		Fraction of day, marking commencement of Solar Year.	First new moon in Solar Year.	C's anomaly for beginning of Solar Year.		Fraction of day, marking commencement of Solar Year.	First new moon in Solar Year.	C's anomaly for beginning of Solar Year.
1	·25868	18·63903	7·04931	38	·82986	29·07937	19·88238	75	1·40104	9·98913	5·16084
2	·51736	7·74745	14·09862	39	1·08854	18·18780	26·93169	76	·65972	28·62815	12·21015
3	·77604	26·38648	21·14793	40	·34722	7·29624	6·42640	77	·91840	17·73659	19·25946
4	·03472	15·49492	0·64264	41	·60590	25·93526	13·47571	78	1·17708	6·84502	26·30877
5	·29340	4·60335	7·69195	42	·86458	15·04370	20·52502	79	1·43576	25·48405	5·80348
6	·55208	23·24238	14·74126	43	1·12326	4·15214	0·01973	80	·69444	14·59249	12·85279
7	·81076	12·35082	21·79057	44	·38194	22·79116	7·06904	81	·95312	3·70092	19·90210
8	·06944	1·45924	1·28528	45	·64062	11·89959	14·11835	82	1·21180	22·33994	26·95141
9	·32812	20·09827	8·33459	46	·89930	1·00803	21·16766	83	1·47048	11·44838	6·44612
10	·58680	9·20671	15·38390	47	1·15799	19·64705	0·66237	84	·72917	0·55681	13·49543
11	·84549	27·84573	22·43321	48	·41667	8·75549	7·71168	85	·98785	19·19584	20·54474
12	·10417	16·95417	1·92792	49	·67535	27·39452	14·76099	86	1·24653	8·30428	0·03945
13	·36285	6·06260	8·97723	50	·93403	16·50294	21·81030	87	1·50521	26·94329	7·08876
14	·62153	24·70162	16·02654	51	1·19271	5·61138	1·30500	88	·76389	16·05173	14·13807
15	·88021	13·81006	23·07585	52	·45139	24·25041	8·35432	89	1·02257	5·16017	21·18738
16	·13889	2·91850	2·57056	53	·71007	13·35884	15·40363	90	1·28125	23·79919	0·68209
17	·39757	21·55752	9·61987	54	·96875	2·46728	22·45294	91	1·53993	2·90763	7·73140
18	·65625	10·66596	16·66918	55	1·22743	21·10630	1·94764	92	·79861	2·01607	14·78071
19	·91493	29·30498	23·71849	56	·48611	10·21474	8·99695	93	1·05729	20·65508	21·83002
20	·17361	18·41341	3·21320	57	·74479	28·85376	16·04627	94	1·31597	9·76352	1·32474
21	·43229	7·52185	10·26251	58	1·00347	17·96219	23·09558	95	1·57465	28·40254	8·37405
22	·69097	26·16088	17·31182	59	1·26215	7·07063	2·59028	96	·83333	17·51098	15·42336
23	·94965	15·26930	24·36113	60	·52083	25·70966	9·63959	97	1·09201	6·61942	22·47267
24	·20833	4·37774	3·85584	61	·77951	14·81810	16·68890	98	1·35069	25·25844	1·96738
25	·46701	23·01677	10·90515	62	1·03819	3·92653	23·73822	99	1·60937	14·36687	9·01668
26	·72569	12·12520	17·95446	63	1·29687	22·56555	3·23292	100	·86805	3·47531	16·06600
27	·98437	1·23364	25·00377	64	·55555	11·67399	10·28223	200	·73611	6·95062	4·57738
28	·24305	19·87267	4·49848	65	·81423	0·78243	17·33154	300	·60417	10·42593	20·64332
29	·50174	8·98109	11·54779	66	1·07292	19·42144	24·38086	400	·47222	13·90124	9·15466
30	·76042	27·62012	18·59710	67	1·33160	8·52989	3·87556	500	·34028	17·37655	25·22064
31	1·01910	16·72856	25·64641	68	·59028	27·16891	10·92488	600	·20833	20·85186	13·73203
32	·27778	5·83699	5·14112	69	·84896	16·27734	17·97419	700	·07639	24·32717	2·24342
33	·53646	24·47602	12·19043	70	1·10764	5·38578	25·02350	800	·94444	27·80248	18·30941
34	·79514	13·58446	19·23974	71	1·36632	24·02480	4·51820	900	·81250	1·74720	6·82080
35	1·05382	2·69288	26·28905	72	·62500	13·13323	11·56751	1000	·68055	5·22251	22·88679
36	·31250	21·33191	5·78376	73	·88368	2·24167	18·61682	2000	·36111	10·44502	18·21898
37	·57118	10·44035	12·83307	74	1·14236	20·88070	25·66613	3000	·04166	15·66753	13·55117

**SUBSIDIARY TABLE VII (b)**

**Sun's Longitude in days (360° = 365·258756484 days).**

Degrees.	Days.	Degrees.	Days	Minutes of degree.	Fraction of day.	Minutes of degree.	Fraction of day.	Minutes of degree.	Fraction of day.	Minutes of degree.	Fraction of day.	Minutes of degree.	Fraction of day.
1	1·0146076	40	40·5843064	1	·0169101	13	·2198316	25	·4227532	37	·6256747	49	·8285962
2	2·0292153	50	50·7303830	2	·0338202	14	·2367418	26	·4396633	38	·6425848	50	·8455063
3	3·0438230	60	60·8764596	3	·0507304	15	·2536519	27	·4565734	39	·6594949	51	·8624165
4	4·0584306	70	71·0225362	4	·0676405	16	·2705620	28	·4734835	40	·6764051	52	·8793266
5	5·0730383	80	81·1686128	5	·0845506	17	·2874722	29	·4903937	41	·6933152	53	·8962367
6	6·0876460	90	91·3146894	6	·1014608	18	·3043823	30	·5073038	42	·7102253	54	·9131468
7	7·1022536	100	101·4607660	7	·1183709	19	·3212924	31	·5242139	43	·7271355	55	·9300570
8	8·1168613	200	202·9215320	8	·1352810	20	·3382025	32	·5411241	44	·7440456	56	·9469671
9	9·1314689	300	304·3822980	9	·1521911	21	·3551127	33	·5580342	45	·7609557	57	·9638772
10	10·1460766	360	365·2587565	10	·1691013	22	·3720228	34	·5749443	46	·7778658	58	·9807874
20	20·2921532			11	·1860114	23	·3889329	35	·5918544	47	·7947760	59	·9976975
30	30·4382298			12	·2029215	24	·4058430	36	·6087646	48	·8116861	60	1·0146076

## TABLE VIII.

CALENDAR FOR ASCERTAINING THE A.D. MONTH AND DAY CORRESPONDING TO ANY SOLAR DATE,  
LUNAR TITHI, NAKSHATRA, YOGA OR KARANA.

[N.B.—The Solar days and Fractions of days, Tithis and ending moments of Tithis, and Moon's Anomaly should be added to the elements given in Tables VI and VII for Centuries and odd years. See the Text for instructions on this subject.]

Week-day.	Days reckoned from			Day of Solar Month.	Day of Solar Year.	Ending moment of Tithi.	Tithi No.	(s An. for each Tithi.	☉'s Long. for Nakshatras and Yogas.
	Jan.	Mar.	Apr.						
	1	1	1						
<b>Chittirai.</b>									
(Mal.) Medam.									
	Jan.	Mar.	Apr.	(Beng.)	Vaisakha.				
				0	0	9843	1	0-984	...
1	1	1	1	1	1	9687	2	1-969	29-4150
2	2	2	2	2	2	9530	3	2-953	29-4959
3	3	3	3	3	3	9374	4	3-937	0670
4	4	4	4	4	4	9217	5	4-921	1479
5	5	5	5	5	5	9061	6	5-906	2287
6	6	6	6	6	6	8904	7	6-890	3096
7	7	7	7	7	7	8748	8	7-875	3904
1	8	8	8	8	8	8592	9	8-859	4713
2	9	9	9	9	9	8435	10	9-843	5521
3	10	10	10	10	10	8279	11	10-827	6330
4	11	11	11	11	11	8122	12	11-812	7138
5	12	12	12	12	12	7966	13	12-797	7947
6	13	13	13	13	13	7809	14	13-781	8755
7	14	14	14	14	14	7652	15	14-765	9564
1	15	15	15	15	15	7496	1	15-750	1-0372
2	16	16	16	16	16	7340	2	16-734	1-1181
3	17	17	17	17	17	7183	3	17-718	1-1989
4	18	18	18	18	18	7027	4	18-703	1-2798
5	19	19	19	19	19	6870	5	19-687	1-3606
6	20	20	20	20	20	6714	6	20-671	1-4415
7	21	21	21	21	21	6557	7	21-656	1-5223
1	22	22	22	22	22	6401	8	22-640	1-6032
2	23	23	23	23	23	6244	9	23-624	1-6840
3	24	24	24	24	24	6088	10	24-609	1-7649
4	25	25	25	25	25	5932	11	25-593	1-8457
5	26	26	26	26	26	5775	12	26-577	1-9266
6	27	27	27	27	27	5619	13	0-007	2-0074
7	28	28	28	28	28	5462	14	0-992	2-0882
1	29	29	29	29	29	5306	15	1-976	2-1691
<b>Jyeshtha.</b>									
2	30	30	30	30	30	5149	1	2-960	2-2499
Sankranti. { S. Sid. 30-9353 days. A. Sid. 30-9250 days.									
<b>Vaikasi.</b>									
(Mal.) Edavam.									
	Jan.	Mar.	May.	(Beng.)	Jyeshtha.	Jyeshtha (Lunar).			
3	31	31	1	1	31	4993	2.	3-945	2-3308
	Feb.	Apr.							
4	1	1	2	2	32	4836	3	4-929	2-4116
5	2	2	3	3	33	4680	4	5-913	2-4925
6	3	3	4	4	34	4523	5	6-898	2-5733
7	4	4	5	5	35	4367	6	7-882	2-6542
1	5	5	6	6	36	4210	7	8-866	2-7350
2	6	6	7	7	37	4054	8	9-851	2-8159
3	7	7	8	8	38	3898	9	10-835	2-8967
4	8	8	9	9	39	3741	10	11-819	2-9776
5	9	9	10	10	40	3585	11	12-804	3-0584
6	10	10	11	11	41	3428	12	13-788	3-1393
7	11	11	12	12	42	3272	13	14-773	3-2201

\* When two dates are given in any of these columns, use the first in a leap year; otherwise use the second.

TABLE VIII.

Week-day.	* Days reckoned from			Day of Solar Month.	Day of Solar Year.	Ending moment of Tithi.	Tithi No.	(s An. for each Tithi.	Q's Long. for Nakshatras and Yogas.
	Jan. 1	Mar. 1	Apr. 1						
<b>Sravana.</b>									
5	29,30	28	28	27	89	5761	1	6-912	7-0200
6	30,31	29	29	28	90	5605	2	7-897	7-1008
7	31, 1	30	30	29	91	5448	3	8-881	7-1817
1	1, 2	31	1	30	92	5292	4	9-865	7-2625
2	2, 3	1	2	31	93	5135	5	10-850	7-3434
3	3, 4	2	3	31	94	4979	6	11-834	7-4242
<b>Adi.</b>									
<b>(Mal.) Karkatagam.</b>									
4	4, 5	3	4	1	95	4822	7	12-818	7-5051
5	5, 6	4	5	2	96	4666	8	13-803	7-5859
6	6, 7	5	6	3	97	4509	9	14-787	7-6668
7	7, 8	6	7	4	98	4353	10	15-771	7-7476
1	8, 9	7	8	5	99	4196	11	16-756	7-8285
2	9,10	8	9	6	100	4040	12	17-740	7-9093
3	10,11	9	10	7	101	3883	13	18-725	7-9902
4	11,12	10	11	8	102	3727	14	19-709	8-0710
5	12,13	11	12	9	103	3571	15	20-693	8-1518
6	13,14	12	13	10	104	3414	1	21-678	8-2327
7	14,15	13	14	11	105	3258	2	22-662	8-3136
1	15,16	14	15	12	106	3101	3	23-646	8-3944
2	16,17	15	16	13	107	2945	4	24-631	8-4753
3	17,18	16	17	14	108	2788	5	25-615	8-5561
4	18,19	17	18	15	109	2632	6	26-599	8-6370
5	19,20	18	19	16	110	2475	7	0-029	8-7178
6	20,21	19	20	17	111	2319	8	1-013	8-7987
7	21,22	20	21	18	112	2162	9	1-998	8-8795
1	22,23	21	22	19	113	2006	10	2-982	8-9604
2	23,24	22	23	20	114	1849	11	3-966	9-0412
3	24,25	23	24	21	115	1693	12	4-951	9-1221
4	25,26	24	25	22	116	1536	13	5-935	9-2029
5	26,27	25	26	23	117	1380	14	6-920	9-2838
6	27,28	26	27	24	118	1223	15	7-904	9-3646
<b>Bhadrapada.</b>									
7	28,29	27	28	25	119	1067	1	8-888	9-4455
1	29,30	28	29	26	120	0911	2	9-873	9-5263
2	30,31	29	30	27	121	0754	3	10-857	9-6071
3	1, 2	30	31	28	122	0598	4	11-841	9-6880
4	2, 3	1	1	29	123	0441	5	12-826	9-7688
5	3, 4	2	2	30	124	0285	6	13-810	9-8497
6	4, 5	3	3	31	125	0128	7	14-794	9-9305
...	...	...	...	31	125	0972	8	15-779	...
<b>Avani.</b>									
<b>(Mal.) Chingam.</b>									
7	5, 6	4	4	1	126	9815	9	16-763	10-0114
1	6, 7	5	5	2	127	9659	10	17-747	10-0922
2	7, 8	6	6	3	128	9502	11	18-732	10-1731
3	8, 9	7	7	4	129	9346	12	19-716	10-2539
4	9,10	8	8	5	130	9189	13	20-700	10-3348
5	10,11	9	9	6	131	9033	14	21-685	10-4156
6	11,12	10	10	7	132	8876	15	22-669	10-4965
7	12,13	11	11	8	133	8720	1	23-654	10-5773
<b>Bhadrpadā (Lunar).</b>									
1	13,14	12	12	9	134	8563	2	24-638	10-6582
2	14,15	13	13	10	135	8407	3	25-622	10-7390
3	15,16	14	14	11	136	8251	4	26-607	10-8199
4	16,17	15	15	12	137	8094	5	0-036	10-9007
5	17,18	16	16	13	138	7938	6	1-021	10-9816
6	18,19	17	17	14	139	7781	7	2-005	11-0624
7	19,20	18	18	15	140	7625	8	2-989	11-1433
1	20,21	19	19	16	141	7468	9	3-974	11-2241
2	21,22	20	20	17	142	7312	10	4-958	11-3050
3	22,23	21	21	18	143	7155	11	5-942	11-3858
4	23,24	22	22	19	144	6999	12	6-927	11-4667
5	24,25	23	23	20	145	6842	13	7-911	11-5475
6	25,26	24	24	21	146	6686	14	8-896	11-6284
7	26,27	25	25	22	147	6529	15	9-880	11-7092
<b>Asvina.</b>									
1	27,28	26	26	23	148	6373	1	10-864	11-7908
2	28,29	27	27	24	149	6216	2	11-849	11-8706
3	29,30	28	28	25	150	6060	3	12-833	11-9515
4	30,31	29	29	26	151	5904	4	13-817	12-0321
5	31, 1	30	30	27	152	5747	5	14-802	12-1130
6	1, 2	31	31	28	153	5591	6	15-786	12-1943
7	2, 3	1	1	29	154	5434	7	16-770	12-2759
1	3, 4	2	2	30	155	5278	8	17-755	12-3568
2	4, 5	3	3	31	156	5121	9	18-739	12-4367
<b>Purattasi.</b>									
<b>(Mal.) Kanni.</b>									
3	5, 6	4	4	1	157	4965	10	19-723	12-5177
4	6, 7	5	5	2	158	4808	11	20-708	12-5985
5	7, 8	6	6	3	159	4652	12	21-692	12-6794
6	8, 9	7	7	4	160	4495	13	22-676	12-7602
7	9,10	8	8	5	161	4339	14	23-661	12-8411
1	10,11	9	9	6	162	4182	15	24-645	12-9219
2	11,12	10	10	7	163	4026	1	25-630	13-0028
3	12,13	11	11	8	164	3869	2	26-614	13-0836
4	13,14	12	12	9	165	3713	3	0-044	13-1645
5	14,15	13	13	10	166	3556	4	1-028	13-2453
6	15,16	14	14	11	167	3400	5	2-012	13-3262
7	16,17	15	15	12	168	3244	6	2-997	13-4070
1	17,18	16	16	13	169	3087	7	3-981	13-4879
2	18,19	17	17	14	170	2931	8	4-965	13-5687
3	19,20	18	18	15	171	2774	9	5-950	13-6496
4	20,21	19	19	16	172	2618	10	6-934	13-7304
5	21,22	20	20	17	173	2461	11	7-918	13-8113
6	22,23	21	21	18	174	2305	12	8-903	13-8921
7	23,24	22	22	19	175	2148	13	9-887	13-9730
1	24,25	23	23	20	176	1992	14	10-872	14-0531
2	25,26	24	24	21	177	1835	15	11-856	14-1347
<b>Kartika.</b>									
3	26,27	25	25	22	178	1679	1	12-840	14-2155
4	27,28	26	26	23	179	1522	2	13-825	14-2964
5	28,29	27	27	24	180	1366	3	14-809	14-3772
6	29,30	28	28	25	181	1209	4	15-793	14-4581
7	30, 1	29	29	26	182	1053	5	16-778	14-5389
1	1, 2	30	30	27	183	0896	6	17-762	14-6198
2	2, 3	31	1	28	184	0740	7	18-746	14-7006
3	3, 4	1	2	29	185	0584	8	19-731	14-7814
4	4, 5	2	3	30	186	0427	9	20-715	14-8623

\* When two dates are given in any of these columns, use the first in a leap year; otherwise use the second.



TABLE VIII.

Week-day.	Days reckoned from			Day of Solar Month.	Day of Solar Year.	Ending moment of Tithi.	Tithi.	C's An. for each Tithi.	O's Long. for Nakshatras and Yogas.	Week-day.	Days reckoned from			Day of Solar Month.	Day of Solar Year.	Ending moment of Tithi.	Tithi.	C's An. for each Tithi.	O's Long. for Nakshatras and Yogas.
	Jan. 1	Mar. 1	Apr. 1								Jan. 1	Mar. 1	Apr. 1						
Sankranti. { Day of month. S. Sid. 30-4414 A. Sid. 30-4567										Aug. Oct. Nov. Kartikai. Pausha.									
" " year. " 186-9355 " 186-8925										" " year. " 29-4903 A. Sid. 29-5086									
Aippasi.										Sankranti. { Day of month. S. Sid. 29-4903 A. Sid. 29-5086									
(Mal.) Tulam. Kartika (Lunar).										" " year. " 246-3192 " 246-3044									
Jul. Sep. Oct. (Beng.) Kartika.										Sep. Nov. Dec. (Beng.) Pausha.	Pausha (Lunar).								
5 5, 6 3 4 1 187 0271 10 21-699 14-9431										2 3, 4 2 3 1 247 0726 11 26-636 19-7941									
6 6, 7 4 5 2 188 0114 11 22-684 15-0040										3 4, 5 3 4 2 248 0569 12 0-065 19-8749									
7 7, 8 5 6 3 189 0901 13 24-652 15-1248										4 5, 6 4 5 3 249 0413 13 1-050 19-9557									
1 8, 9 6 7 4 190 0964 14 25-637 15-1857										5 6, 7 5 6 4 250 0257 14 2-034 20-0366									
2 9, 10 7 8 5 191 0948 15 26-621 15-2665										6 7, 8 6 7 5 251 0108 15 3-019 20-1174									
3 10, 11 8 9 6 192 0932 1 0-051 15-3474										... 8, 9 7 8 6 252 0978 1 4-987 20-1983									
4 11, 12 9 10 7 193 0917 2 1-035 15-4282										1 9, 10 8 9 7 253 0963 2 5-972 20-2791									
5 12, 13 10 11 8 194 0901 3 2-020 15-5090										2 10, 11 9 10 8 254 0947 3 6-956 20-3600									
6 13, 14 11 12 9 195 0886 4 3-004 15-5899										3 11, 12 10 11 9 255 0938 4 7-940 20-4408									
7 14, 15 12 13 10 196 0870 5 3-988 15-6708										4 12, 13 11 12 10 256 0916 5 8-925 20-5217									
1 15, 16 13 14 11 197 0854 6 4-973 15-7516										5 13, 14 12 13 11 257 0905 6 9-909 20-6025									
2 16, 17 14 15 12 198 0839 7 5-957 15-8325										6 14, 15 13 14 12 258 0884 7 10-893 20-6834									
3 17, 18 15 16 13 199 0823 8 6-941 15-9133										7 15, 16 14 15 13 259 0869 8 11-878 20-7642									
4 18, 19 16 17 14 200 0808 9 7-926 15-9942										1 16, 17 15 16 14 260 0853 9 12-862 20-8451									
5 19, 20 17 18 15 201 0792 10 8-910 16-0750										2 17, 18 16 17 15 261 0837 10 13-846 20-9259									
6 20, 21 18 19 16 202 0776 11 9-894 16-1559										3 18, 19 17 18 16 262 0822 11 14-831 21-0068									
7 21, 22 19 20 17 203 0761 12 10-879 16-2367										4 19, 20 18 19 17 263 0806 12 15-815 21-0876									
1 22, 23 20 21 18 204 0745 13 11-863 16-3176										5 20, 21 19 20 18 264 0790 13 16-799 21-1685									
2 23, 24 21 22 19 205 0729 14 12-848 16-3984										6 21, 22 20 21 19 265 0773 14 17-784 21-2493									
3 24, 25 22 23 20 206 0714 15 13-832 16-4793																			
Margasira.										Magha									
4 25, 26 23 24 21 207 0698 1 14-816 16-5601										7 22, 23 21 22 20 266 0759 1 18-768 21-3302									
5 26, 27 24 25 22 208 0682 2 15-801 16-6410										1 23, 24 22 23 21 267 0740 2 19-753 21-4110									
6 27, 28 25 26 23 209 0667 3 16-785 16-7218										2 24, 25 23 24 22 268 0724 3 20-737 21-4919									
7 28, 29 26 27 24 210 0651 4 17-769 16-8026										3 25, 26 24 25 23 269 0712 4 21-721 21-5727									
1 29, 30 27 28 25 211 0635 5 18-754 16-8835										4 26, 27 25 26 24 270 0697 5 22-706 21-6536									
2 30, 31 28 29 26 212 0620 6 19-738 16-9644										5 27, 28 26 27 25 271 0681 6 23-690 21-7344									
3 31, 1 29 30 27 213 0604 7 20-722 17-0452										6 28, 29 27 28 26 272 0658 7 24-674 21-8153									
Aug. Oct. Nov.										Oct. Dec. Jan. (Beng.) Magha. Magha (Lunar).									
4 1, 2 30 31 28 214 0589 8 21-707 17-1261										7 29, 30 28 29 27 273 0601 8 25-659 21-8961									
5 2, 3 1 1 29 215 0573 9 22-691 17-2069										1 30, 1 29 30 28 274 0634 9 26-643 21-9770									
6 3, 4 2 2 29 216 0557 10 23-675 17-2877										2 1, 2 30 31 29 275 0618 10 0-073 22-0578									
Sankranti. { Day of month. S. Sid. 29-8933 A. Sid. 29-9033										Sankranti. { Day of month. S. Sid. 29-3178 A. Sid. 29-3505									
" " year. " 216-8289 " 216-7958										" " year. " 275-6369 " 275-6550									
Kartikai.										Tai.									
(Mal.) Vrischikam. Margasira (Lunar).										(Mal.) Magaram. Magha (Lunar).									
Aug. Oct. Nov. (Beng.) Margasira.										Oct. Dec. Jan. (Beng.) Magha.									
7 4, 5 3 4 1 217 0542 11 24-660 17-3686										3 2, 3 1 1 1 276 0632 11 1-057 22-1357									
1 5, 6 4 5 2 218 0526 12 25-644 17-4494										4 3, 4 2 2 2 277 0587 12 2-041 22-2195									
2 6, 7 5 6 3 219 0510 13 26-628 17-5303										5 4, 5 3 3 3 278 0519 13 3-026 22-3004									
3 7, 8 6 7 4 220 0495 14 0-058 17-6111										6 5, 6 4 4 4 279 0552 14 4-010 22-3810									
4 8, 9 7 8 5 221 0479 15 1-043 17-6900										7 6, 7 5 5 5 280 0506 15 4-995 22-4621									
5 9, 10 8 9 6 222 0463 1 2-027 17-7728																			
6 10, 11 9 9 7 223 0448 2 3-011 17-8537																			
7 11, 12 10 10 8 224 0432 3 3-996 17-9345																			
1 12, 13 11 11 9 225 0416 4 4-980 18-0154																			
2 13, 14 12 12 10 226 0402 5 5-964 18-0962																			
3 14, 15 13 13 11 227 0385 6 6-949 18-1771																			
4 15, 16 14 14 12 228 0369 7 7-933 18-2579																			
5 16, 17 15 15 13 229 0352 8 8-917 18-3388																			
6 17, 18 16 16 14 230 0338 9 9-902 18-4196																			
7 18, 19 17 17 15 231 0322 10 10-886 18-5005																			
1 19, 20 18 18 16 232 0307 11 11-870 18-5813																			
2 20, 21 19 19 17 233 0291 12 12-855 18-6622																			
3 21, 22 20 20 18 234 0276 13 13-839 18-7430																			
4 22, 23 21 21 19 235 0260 14 14-824 18-8239																			
5 23, 24 22 22 20 236 0244 15 15-808 18-9047																			

TABLE VIII.

Week-day.	Days reckoned from			Day of Solar Month.	Day of Solar Year.	Ending moment of Tithi.	Tithi.	C's An. for each Tithi.	C's Long. for Nakshatras and Yogas.	Week-day.	Days reckoned from			Day of Solar Month.	Day of Solar Year.	Ending moment of Tithi.	Tithi.	C's An. for each Tithi.	C's Long. for Nakshatras and Yogas.			
	Jan. 1	Mar. 1	Apr. 1								Jan. 1	Mar. 1	Apr. 1									
	Oct.	Dec.	Jan.	Tai.																		
<b>Magha (Lunar).</b>																						
1	7, 8	6	6	6	281	5249	1	5-979	22-5429	Sankranti.	{ Day of month. S. Sid. 29-8203 A. Sid. 29-8083											
2	8, 9	7	7	7	282	5093	2	6-963	22-6237	{ " year. " 334-9053 " 334-9200												
3	9, 10	8	8	8	283	4937	3	7-948	22-7046	<b>Panguni.</b>												
4	10, 11	9	9	9	284	4780	4	8-932	22-7854	(Mal.) Meenam.												
5	11, 12	10	10	10	285	4624	5	9-916	22-8663	Nov.	Jan.	Feb.	(Beng.) Chaitra.	<b>Chaitra (Lunar).</b>								
6	12, 13	11	11	11	286	4467	6	10-901	22-9471	Dec.	Mar.			1	335	6644	11	5-009	26-9087			
7	13, 14	12	12	12	287	4311	7	11-885	23-0280	1, 2	30	1, 2	2	336	6487	12	5-993	26-9896				
1	14, 15	13	13	13	288	4154	8	12-869	23-1088	2, 3	31	2, 3	3	337	6331	13	6-978	27-0704				
2	15, 16	14	14	14	289	3998	9	13-854	23-1897	Feb.												
3	16, 17	15	15	15	290	3841	10	14-838	23-2705	3, 4	1	3, 4	4	338	6174	14	7-962	27-1513				
4	17, 18	16	16	16	291	3685	11	15-822	23-3514	4, 5	2	4, 5	5	339	6018	15	8-947	27-2321				
5	18, 19	17	17	17	292	3528	12	16-807	23-4322	5, 6	3	5, 6	6	340	5861	1	9-931	27-3130				
6	19, 20	18	18	18	293	3372	13	17-791	23-5131	6, 7	4	6, 7	7	341	5705	2	10-915	27-3938				
7	20, 21	19	19	19	294	3215	14	18-775	23-5939	7, 8	5	7, 8	8	342	5548	3	11-900	27-4746				
1	21, 22	20	20	20	295	3059	15	19-760	23-6748	8, 9	6	8, 9	9	343	5392	4	12-884	27-5555				
<b>Phalguna.</b>																						
2	22, 23	21	21	21	296	2902	1	20-744	23-7556	9, 10	7	9, 10	10	344	5235	5	13-868	27-6363				
3	23, 24	22	22	22	297	2746	2	21-729	23-8364	10, 11	8	10, 11	11	345	5079	6	14-853	27-7172				
4	24, 25	23	23	23	298	2589	3	22-713	23-9173	11, 12	9	11, 12	12	346	4922	7	15-837	27-7980				
5	25, 26	24	24	24	299	2433	4	23-697	23-9982	12, 13	10	12, 13	13	347	4766	8	16-821	27-8789				
6	26, 27	25	25	25	300	2277	5	24-682	24-0790	13, 14	11	13, 14	14	348	4610	9	17-806	27-9597				
7	27, 28	26	26	26	301	2120	6	25-666	24-1599	14, 15	12	14, 15	15	349	4453	10	18-790	28-0406				
1	28, 29	27	27	27	302	1964	7	26-650	24-2407	15, 16	13	15, 16	16	350	4297	11	19-774	28-1214				
2	29, 30	28	28	28	303	1807	8	0-080	24-3216	16, 17	14	16, 17	17	351	4140	12	20-759	28-2023				
3	30, 31	29	29	29	304	1651	9	1-064	24-4024	17, 18	15	17, 18	18	352	3984	13	21-743	28-2831				
4	31, 1	30	30	29	305	1494	10	2-049	24-4833	18, 19	16	18, 19	19	353	3827	14	22-727	28-3640				
										19, 20	17	19, 20	20	354	3671	15	23-712	28-4448				
<b>Chaitra (when there is no Adhika masa).</b>																						
Sankranti.	{ Day of month. S. Sid. 29-4480 A. Sid. 29-4567																					
	{ " year. " 305-0850 " 305-1117																					
<b>Masi.</b>																						
(Mal.) Kumbham.																						
	Nov.	Dec.	Jan.	Feb.	Phalguna.	Phalguna (Lunar).																
5	1, 2	31	31	1	306	1338	11	3-033	24-5641	5	20, 21	18	20, 21	21	355	3514	1	24-696	28-5257			
6	2, 3	1	1	2	307	1181	12	4-017	24-6450	6	21, 22	19	21, 22	22	356	3358	2	25-681	28-6066			
7	3, 4	2	2	3	308	1025	13	5-002	24-7258	7	22, 23	20	22, 23	23	357	3201	3	26-665	28-6874			
1	4, 5	3	3	4	309	0868	14	5-986	24-8067	1	23, 24	21	23, 24	24	358	3045	4	0-095	28-7683			
2	5, 6	4	4	5	310	0712	15	6-971	24-8875	2	24, 25	22	24, 25	25	359	2888	5	1-079	28-8491			
3	6, 7	5	5	6	311	0555	1	7-955	24-9683	3	25, 26	23	25, 26	26	360	2732	6	2-063	28-9300			
4	7, 8	6	6	7	312	0399	2	8-939	25-0492	4	26, 27	24	26, 27	27	361	2575	7	3-048	29-0108			
5	8, 9	7	7	8	313	0242	3	9-924	25-1300	5	27, 28	25	27, 28	28	362	2419	8	4-032	29-0917			
6	9, 10	8	8	9	314	0086	4	10-908	25-2109	6	28, 29	26	28, 29	29	363	2262	9	5-016	29-1725			
...	...	...	...	...	314	9929	5	11-892	...	7	29, 30	27	29, 30	30	364	2106	10	6-001	29-2533			
7	10, 11	9	9	10	315	9773	6	12-877	25-2917	1	30, 31	28	30, 31	30	365	1950	11	6-985	29-3342			
1	11, 12	10	10	11	316	9617	7	13-861	25-3726	Sankranti. { Day of month. S. Sid. 30-3535 A. Sid. 30-3388												
2	12, 13	11	11	12	317	9460	8	14-845	25-4534	{ " year. " 365-2587 " 365-2587												
3	13, 14	12	12	13	318	9304	9	15-830	25-5343	<b>Chittirai.</b>												
4	14, 15	13	13	14	319	9147	10	16-814	25-6151	(Mal.) Medam												
5	15, 16	14	14	15	320	8991	11	17-798	25-6960	Dec.	Feb.	Mar.	(Beng.) Vaisakha.	<b>Chaitra (Lunar).</b>								
6	16, 17	15	15	16	321	8834	12	18-783	25-7768	Jan.	Mar.	Apr.		1	366	1793	12	7-969	29-4150			
7	17, 18	16	16	17	322	8678	13	19-767	25-8577	1, 2	1, 2	1, 2	2	367	1637	13	8-954					
1	18, 19	17	17	18	323	8521	14	20-751	25-9385	2, 3	2, 3	2, 3	3	368	1480	14	9-938					
2	19, 20	18	18	19	324	8365	15	21-736	26-0194	3, 4	3, 4	3, 4	4	369	1324	15	10-923					
<b>Chaitra (when there is no Adhika masa).</b>																						
3	20, 21	19	19	20	325	8208	1	22-720	26-1002	4, 5	4, 5	4, 5	5	370	1167	1	11-907					
4	21, 22	20	20	21	326	8052	2	23-705	26-1811	5, 6	5, 6	5, 6	6	371	1011	2	12-891					
5	22, 23	21	21	22	327	7895	3	24-689	26-2619	1	6, 7	6, 7	7	372	0854	3	13-876					
6	23, 24	22	22	23	328	7739	4	25-673	26-3428	2	7, 8	7, 8	8	373	0698	4	14-860					
7	24, 25	23	23	24	329	7582	5	26-658	26-4236	3	8, 9	8, 9	9	374	0541	5	15-844					
1	25, 26	24	24	25	330	7426	6	0-087	26-5045	4	9, 10	9, 10	10	375	0385	6	16-829					
2	26, 27	25	25	26	331	7269	7	1-072	26-5853	5	10, 11	10, 11	11	376	0228	7	17-813					
3	27, 28	26	26	27	332	7113	8	2-056	26-6662	6	11, 12	11, 12	12	377	0072	8	18-797					
4	28, 29	27	27	28	333	6957	9	3-040	26-7470	...	...	...	...	377	9915	9	19-782					
5	29, 30	28	28	29	334	6800	10	4-025	26-8279	7	12, 13	12, 13	13	378	9759	10	20-766					
										1	13, 14	13, 14	14	379	9602	11	21-750					
										2	14, 15	14, 15	15	380	9446	12	22-735					
										3	15, 16	15, 16	16	381	9290	13	23-719					
										4	16, 17	16, 17	17	382	9133	14	24-703					
										5	17, 18	17, 18	18	383	8977	15	25-688					

\* When two dates are given in any of these columns, use the first in a leap year; otherwise use the second.

**TABLE IX—(a)—For Tithis.**  
**Moon's Anomaly and Moon's Equation of the Centre in Days and Fractions of a Day.**  
**SURYA SIDDHANTA.**

Eqn.	0	1	2	3	4	5	6	7	8	9	Eqn.	—	0	1	2	3	4	5	6	7	8	9	Eqn.	—
Moon's Anomaly in days.												Moon's Anomaly in days.												
00	000	011	023	034	046	057	069	080	091	102	41		00	000	011	023	034	046	057	069	080	091	102	41
01	114	125	137	148	160	171	183	195	206	218	40		01	114	125	137	148	160	171	183	195	206	218	40
02	229	241	252	264	275	286	297	309	320	332	39		02	229	241	252	264	275	286	297	309	320	332	39
03	343	355	366	378	389	401	413	424	436	447	38		03	343	355	366	378	389	401	413	424	436	447	38
04	458	469	481	492	504	516	527	539	550	562	37		04	458	469	481	492	504	516	527	539	550	562	37
05	573	585	597	608	619	630	642	654	665	677	36		05	573	585	597	608	619	630	642	654	665	677	36
06	689	700	712	724	735	747	759	771	782	793	35		06	689	700	712	724	735	747	759	771	782	793	35
07	805	816	828	840	851	863	875	886	898	910	34		07	805	816	828	840	851	863	875	886	898	910	34
08	921	933	945	957	968	979	991	1003	1015	1027	33		08	921	933	945	957	968	979	991	1003	1015	1027	33
09	1038	1050	1062	1074	1086	1098	1109	1121	1132	1144	32		09	1038	1050	1062	1074	1086	1098	1109	1121	1132	1144	32
10	1156	1168	1179	1191	1203	1215	1227	1239	1251	1263	31		10	1156	1168	1179	1191	1203	1215	1227	1239	1251	1263	31
11	1275	1287	1299	1310	1322	1334	1346	1358	1370	1382	30		11	1275	1287	1299	1310	1322	1334	1346	1358	1370	1382	30
12	1394	1406	1418	1430	1442	1454	1466	1478	1490	1502	29		12	1394	1406	1418	1430	1442	1454	1466	1478	1490	1502	29
13	1514	1526	1538	1550	1562	1574	1587	1599	1611	1624	28		13	1514	1526	1538	1550	1562	1574	1587	1599	1611	1624	28
14	1636	1648	1660	1672	1684	1697	1709	1721	1734	1746	27		14	1636	1648	1660	1672	1684	1697	1709	1721	1734	1746	27
15	1758	1771	1783	1795	1808	1820	1832	1844	1856	1868	26		15	1758	1771	1783	1795	1808	1820	1832	1844	1856	1868	26
16	1881	1893	1906	1919	1931	1944	1957	1969	1982	1994	25		16	1881	1893	1906	1919	1931	1944	1957	1969	1982	1994	25
17	2007	2020	2032	2044	2057	2069	2082	2094	2107	2120	24		17	2007	2020	2032	2044	2057	2069	2082	2094	2107	2120	24
18	2132	2145	2157	2170	2183	2196	2209	2222	2234	2247	23		18	2132	2145	2157	2170							

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.
	d.	gh.	p.	d.	gh.	p.	d.	gh.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.								58
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25	
July	11	21	29			8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE IX—(d)—For Tithis.**

**TABLE IX—(d)—For Tithis.**  
**Moon's Anomaly and Equation of the Centre expressed in Days and Fractions of a Day.**

[illegible]

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.								8
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25
July	11	21	29				8	59

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.								8
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25
July	11	21	29				8	59

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE IX—(2)—For Yogas.**  
**Moon's Anomaly and Equation of the Centre in Days, Ghatikas and Palas.**  
**SURYA SIDDHANTA.**

Eqn.	0	10	20	30	40	50	Eqn.	0	10	20	30	40	50
Palas. —							+						
Ghat. d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	Ghat. d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.
0	...	0 2 12	0 4 25	0 6 37	0 8 49	0 11 2	0	13 46 38	13 48 29	13 50 20	13 52 11	13 54 2	13 55 53
1	0 13 14	0 15 26	0 17 38	0 19 51	0 22 5	0 24 19	1	13 57 44	13 59 35	14 1 26	14 3 15	14 5 7	14 6 59
2	0 26 33	0 28 46	0 31 0	0 33 14	0 35 28	0 37 42	2	14 8 51	14 10 43	14 12 35	14 14 27	14 16 19	14 18 12
3	0 39 58	0 42 13	0 44 29	0 46 44	0 49 0	0 51 16	3	14 20 6	14 22 0	14 23 54	14 25 48	14 27 42	14 29 36
4	0 53 32	0 55 47	0 58 3	1 0 20	1 2 37	1 4 54	4	14 31 30	14 33 24	14 35 17	14 37 12	14 39 7	14 41 2
5	1 7 11	1 9 27	1 11 44	1 14 1	1 16 18	1 18 37	5	14 42 57	14 44 53	14 46 48	14 48 43	14 50 40	14 52 37
6	1 20 55	1 23 14	1 25 33	1 27 51	1 30 10	1 32 28	6	14 54 34	14 56 31	14 58 28	15 0 25	15 2 22	15 4 19
7	1 34 47	1 37 11	1 39 34	1 42 57	1 44 21	1 46 44	7	15 6 15	15 8 17	15 10 19	15 12 21	15 14 23	15 16 25
8	1 49 8	1 51 31	1 53 55	1 56 20	1 58 45	2 1 10	8	15 18 27	15 20 29	15 22 30	15 24 33	15 26 37	15 28 40
9	2 3 35	2 6 1	2 8 26	2 10 51	2 13 22	2 15 52	9	15 30 43	15 32 47	15 34 50	15 36 53	15 39 2	15 41 11
10	2 18 23	2 20 54	2 23 25	2 25 55	2 28 26	2 30 57	10	15 43 21	15 45 30	15 47 39	15 49 49	15 51 58	15 54 7
11	2 33 35	2 36 14	2 38 52	2 41 31	2 44 9	2 46 47	11	15 56 24	16 58 40	16 0 57	16 3 14	16 5 30	16 7 47
12	2 49 26	2 52 6	2 54 47	2 57 28	3 0 9	3 2 49	12	16 10 4	16 12 26	16 14 48	16 17 10	16 19 32	16 21 54
13	3 5 30	3 8 11	3 11 3	3 13 55	3 16 46	3 19 38	13	16 24 16	16 26 37	16 29 4	16 31 31	16 33 57	16 36 24
14	3 22 29	3 25 21	3 28 21	3 31 22	3 34 23	3 37 23	14	16 38 51	16 41 17	16 43 56	16 46 35	16 49 14	16 51 53
15	3 40 24	3 43 24	3 46 37	3 49 50	3 53 3	3 56 16	15	16 54 32	16 57 10	17 0 1	17 2 52	17 5 43	17 8 34
16	3 59 29	4 2 42	4 6 10	4 9 38	4 13 6	4 16 34	16	17 11 25	17 14 18	17 17 20	17 20 23	17 23 25	17 26 27
17	4 20 2	4 23 38	4 27 14	4 30 50	4 34 26	4 38 2	17	17 29 30	17 32 49	17 36 8	17 39 27	17 42 46	17 46 4
18	4 42 17	4 46 32	4 50 47	4 55 2	4 59 17	5 4 1	18	17 49 57	17 53 50	17 57 43	18 1 36	18 5 29	18 9 51
19	5 8 45	5 13 29	5 18 12	5 23 24	5 28 37	5 33 49	19	18 14 12	18 18 34	18 22 56	18 27 47	18 32 38	18 37 29
20	5 40 9	5 46 29	5 52 43	6 0 17	6 7 44	6 17 19	20	18 43 27	18 49 25	18 55 23	19 2 30	19 9 36	19 18 50
21	6 26 55	6 37 37	6 59 13	...	...	...	21	19 28 3	19 38 23	19 59 37	...	...	...

Maximum equation—21 ghat., 23 palas for Anomaly of 7 days 16 ghatikas 29 palas.

Maximum equation+21 ghat., 23 palas for Anomaly of 20 days 16 ghatikas 47 palas.

Eqn.	50	40	30	20	10	0	Eqn.	50	40	30	20	10	0
Palas. —							+						
Ghat. d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	Ghat. d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.	d. g. p.
21	...	...	...	7 38 39	7 54 53	8 5 13	21	...	...	...	20 34 3	20 55 39	21 6 18
20	8 14 26	8 23 40	8 30 46	8 37 53	8 43 51	8 49 49	20	21 16 42	21 25 25	21 33 23	21 40 53	21 47 40	21 53 27
19	8 55 47	9 0 38	9 5 29	9 10 20	9 14 42	9 19 3	19	21 59 27	22 4 53	22 10 17	22 15 4	22 20 20	22 24 45
18	9 23 25	9 27 46	9 31 39	9 35 32	9 39 25	9 43 18	18	22 29 28	22 34 11	22 38 35	22 42 37	22 46 49	22 50 40
17	9 47 12	9 50 31	9 53 50	9 57 9	10 0 28	10 3 46	17	22 54 52	22 58 41	23 2 20	23 6 8	23 9 40	23 13 30
16	10 6 48	10 9 50	10 12 53	10 15 55	10 18 58	10 21 49	16	23 17 6	23 20 24	23 23 45	23 27 21	23 30 36	23 34 0
15	10 24 40	10 27 31	10 30 22	10 33 13	10 36 6	10 38 45	15	23 37 24	23 40 23	23 43 30	23 46 37	23 49 55	23 52 44
14	10 41 24	10 44 3	10 46 42	10 49 21	10 51 59	10 54 26	14	23 55 56	23 59 8	24 1 55	24 5 0	24 7 45	24 10 45
13	10 56 53	10 59 19	11 1 46	11 4 12	11 6 39	11 9 1	13	24 13 45	24 16 23	24 19 20	24 22 15	24 24 58	24 27 50
12	11 11 23	11 13 45	11 16 7	11 18 29	11 20 51	11 23 12	12	24 30 30	24 33 18	24 36 6	24 38 35	24 41 23	24 44 15
11	11 25 29	11 27 46	11 30 2	11 32 19	11 34 35	11 36 52	11	24 46 45	24 49 23	24 52 11	24 54 35	24 57 8	24 59 42
10	11 39 9	11 41 18	11 43 27	11 45 37	11 47 46	11 49 55	10	25 2 25	25 5 8	25 7 26	25 10 0	25 12 18	25 14 54
9	11 52 5	11 54 14	11 56 23	11 58 26	12 0 29	12 2 33	9	25 17 30	25 19 53	25 22 37	25 24 53	25 27 26	25 29 49
8	12 4 36	12 6 40	12 8 43	12 10 46	12 12 48	12 14 50	8	25 32 4	25 34 28	25 36 51	25 39 27	25 42 1	25 44 9
7	12 16 52	12 18 54	12 20 56	12 22 58	12 25 0	12 27 1	7	25 46 37	25 49 7	25 51 19	25 53 43	25 56 5	25 58 39
6	12 28 58	12 30 55	12 32 52	12 34 49	12 36 46	12 38 43	6	26 0 58	26 3 5	26 5 31	26 7 58	26 10 10	26 12 33
5	12 40 40	12 42 36	12 44 31	12 46 27	12 48 22	12 50 18	5	26 14 41	26 17 5	26 19 29	26 21 33	26 23 55	26 26 21
4	12 52 13	12 54 9	12 56 4	12 57 59	12 59 53	13 1 47	4	26 28 36	26 30 50	26 33 2	26 35 18	26 37 28	26 39 51
3	13 3 41	13 5 35	13 7 29	13 9 23	13 11 17	13 13 11	3	26 42 4	26 44 13	26 46 31	26 48 51	26 51 3	26 53 26
2	13 15 4	13 16 56	13 18 48	13 20 40	13 22 32	13 24 24	2	26 55 41	26 57 51	27 0 6	27 2 14	27 4 29	27 6 51
1	13 26 16	13 28 8	13 30 1	13 31 52	13 33 43	13 35 34	1	27 8 54	27 11 12	27 13 29	27 15 39	27 17 54	27 20 5
0	13 37 25	13 39 16	13 41 7	13 42 58	13 44 49	13 46 38	0	27 22 17	27 24 21	27 26 40	27 28 55	27 31 6	27 33 17

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

		d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29		4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34		3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13		0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16		8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
		-----										
		Sum	- 18	gh. 15 p.	-	18	15	(☉'s Yoga Eqn.)	+	1	25	
	July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE X—

Kaliyuga.	Vikrama Era.	Saka Era.	Com- mence- ment of Solar year.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	Christian Era.	☉'s Anom col. 5					☉'s Anom col. 6					+ 29°53059					+ 59°06117					+ 88°59176					+ 118°12235				
							☾'s Anom col. 6					+ 1°976					+ 3°952					+ 5°928					+ 7°904									
							Vaisakha					Jyeshtha					Ashada					Sravana					Bhadrapada									
Week-day of 1st January.							Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		
3101	57	13M	·9831	9·9981	22·736	B. C. 1	5	3	Mr	23	·98	5	Ap	22	·51	7	My	22	·04	1	Je	20	·57	3	Jl	20	·10									
3102	58	14M	·2419	28·6370	20·870	A. D. 1	7	2	Ap	11	·88	4	My	11	·41	5	Je	9	·94	7	Jl	9	·47	2	Au	8	·00									
3103	59	14M	·5006	17·7453	17·027	2	1	7	Ap	1	·25	1	Ap	30	·78	3	My	30	·31	4	Je	28	·84	6	Jl	28	·37									
3104	60	14M	·7594	6·8536	13·184	3	2	4	Mr	21	·61	6	Ap	20	·14	7	My	19	·67	2	Je	18	·20	5	Au	16	·27									
3105	61	14M	·0181	25·4925	11·317	4	3	3	Ap	8	·51	5	My	8	·04	6	Je	6	·57	1	Jl	6	·10	2	Au	4	·63									
3106	62	14M	·2769	14·6008	7·475	5	5	7	Mr	28	·88	2	Ap	27	·41	3	My	26	·94	5	Je	25	·47	7	Jl	25	·00									
3107	63	14M	·5356	3·7091	3·633	6	6	5	Mr	18	·24	6	Ap	16	·77	1	My	16	·31	4	Jl	14	·37	5	Au	12	·90									
3108	64	14M	·7944	22·3479	1·765	7	7	4	Ap	6	·14	5	My	5	·67	7	Je	4	·20	1	Jl	3	·73	3	Au	2	·26									
3109	65	14M	·0531	11·4562	25·477	8	1	1	Mr	25	·51	3	Ap	24	·04	4	My	23	·57	6	Je	22	·10	7	Jl	21	·63									
3110	66	14M	·3119	0·5645	21·634	9	3	5	Mr	14	·88	1	My	12	·94	3	Je	11	·47	5	Jl	11	·00	6	Au	9	·53									
3111	67	14M	·5707	19·2034	19·767	10	4	4	Ap	2	·77	6	My	2	·30	7	My	31	·83	2	Je	30	·37	3	Jl	29	·90									
3112	68	14M	·8294	8·3117	15·925	11	5	2	Mr	23	·14	3	Ap	21	·67	5	My	21	·20	6	Je	19	·73	1	Jl	19	·26									
3113	69	14M	·0882	26·9506	14·058	12	6	1	Ap	10	·04	2	My	9	·57	4	Je	8	·10	5	Jl	7	·63	7	Au	6	·16									
3114	70	14M	·3469	16·0589	10·215	13	1	5	Mr	30	·41	6	Ap	28	·94	1	My	28	·47	3	Je	27	·00	4	Jl	26	·53									
3115	71	14M	·6057	5·1672	6·373	14	2	2	Mr	19	·77	4	Ap	18	·30	5	My	17	·83	1	Jl	15	·89	3	Au	14	·43									
3116	72	14M	·8644	23·8061	4·506	15	3	1	Ap	7	·67	3	My	7	·20	4	Je	5	·73	6	Jl	5	·26	7	Au	3	·79									
3117	73	14M	·1232	12·9144	0·663	16	4	6	Mr	27	·04	7	Ap	25	·57	2	My	25	·10	3	Je	23	·63	5	Jl	23	·16									
3118	74	14M	·3820	2·0227	24·375	17	6	3	Mr	16	·40	4	Ap	14	·93	1	Je	13	·00	2	Jl	12	·53	4	Au	11	·06									
3119	75	14M	·6407	20·6616	22·508	18	7	2	Ap	4	·30	3	My	3	·83	5	Je	2	·36	6	Jl	1	·89	1	Jl	31	·42									
3120	76	14M	·8995	9·7699	18·665	19	1	6	Mr	24	·67	1	Ap	23	·20	2	My	22	·73	4	Je	21	·26	5	Jl	20	·79									
3121	77	14M	·1582	28·4088	16·799	20	2	5	Ap	11	·57	7	My	11	·10	1	Je	9	·63	3	Jl	9	·16	4	Au	7	·69									
3122	78	14M	·4170	17·5171	12·956	21	4	2	Mr	31	·93	4	Ap	30	·46	5	My	29	·99	7	Je	28	·53	2	Jl	28	·06									
3123	79	14M	·6757	6·6254	9·113	22	5	7	Mr	21	·30	1	Ap	19	·83	3	My	19	·36	4	Je	17	·89	7	Au	15	·95									
3124	80	14M	·9345	25·2647	7·246	23	6	6	Ap	9	·20	7	My	8	·73	2	Je	7	·26	3	Jl	6	·79	5	Au	5	·32									
3125	81	14M	·1932	14·3726	3·404	24	7	3	Mr	28	·57	5	Ap	27	·10	6	My	26	·63	1	Je	25	·16	2	Jl	24	·69									
3126	82	14M	·4520	3·4809	27·115	25	2	7	Mr	17	·93	2	Ap	16	·46	3	My	15	·99	7	Jl	14	·05	1	Au	12	·59									
3127	83	14M	·7108	22·1197	25·2	26	3	6	Ap	5	·83	1	My	5	·36	2	Je	3	·89	4	Jl	3	·42	5	Au	1	·95									
3128	84	14M	·9695	11·2280	21·	27	4	4	Mr	26	·20	5	Ap	24	·73	7	My	24	·26	1	Je	22	·79	3	Jl	22	·32									
3129	85	14M	·2283	0·3363	17·563	28	5	1	Mr	14	·56	4	My	12	·63	6	Je	11	·16	7	Jl	10	·69	2	Au	9	·22									
3130	86	14M	·4870	18·9752	15·696	29	7	7	Ap	2	·46	1	My	1	·99	3	My	31	·52	5	Je	30	·05	6	Jl	29	·58									
3131	87	14M	·7458	8·0835	11·854	30	1	4	Mr	22	·83	6	Ap	21	·36	7	My	20	·89	2	Je	19	·42	3	Jl	18	·95									
3132	88	15M	·0045	26·7224	9·987	31	2	3	Ap	10	·73	5	My	10	·26	6	Je	8	·79	1	Jl	8	·32	2	Au	6	·85									
3133	89	14M	·2633	15·8307	6·144	32	3	1	Mr	30	·09	2	Ap	28	·62	4	My	28	·15	5	Je	26	·69	7	Jl	26	·22									
3134	90	14M	·5221	4·9390	2·301	33	5	5	Mr	19	·46	6	Ap	17	·99	1	My	17	·52	4	Jl	15	·58	6	Au	14	·11									
3135	91	14M	·7808	23·5779	0·435	34	6	4	Ap	7	·36	5	My	6	·89	7	Je	5	·42	1	Jl	4	·95	3	Au	3	·48									
3136	92	15M	·0396	12·6862	24·146	35	7	1	Mr	27	·73	3	Ap	26	·26	4	My	25	·79	6	Je	24	·32	7	Jl	23	·85									
3137	93	14M	·2983	1·7945	20·304	36	1	6	Mr	16	·09	7	Ap	14	·62	3	Je	12	·68	5	Jl	12	·21	6	Au	10	·75									
3138	94	14M	·5571	20·4334	18·437	37	3	4	Ap	3	·99	6	My	3	·52	1	Je	2	·05	2	Jl	1	·58	4	Jl	31	·11									
3139	95	14M	·8158	9·5417	14·594	38	4	2	Mr	24	·36	3	Ap	22	·89	5	My	22	·42	6	Je	20	·95	1	Jl	20	·48									

# Solar years and New moons from B.C. 1 to A.D. 2000 (Surya Siddhanta).\*

+ 147-65293				+ 177-18353				+ 206-71411				+ 236-24470				+ 265-77529				+ 295-80588				{ +324-83647					
+ 9-880				+ 11-856				+ 13-832				+ 15-808				+ 17-784				+ 19-760				{ +354-36705					
																								{ +21-736					
																								{ +23-712					
Asvina				Kartika				Margasira				Pausa				A.D.	Magha				A.D.	Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
4 Au 18			.63	7 O 16			.69	2 N 15			.23	<b>Pausa.</b>					3 D 14			.76	<b>1</b>	5 Jr 13			.29	6 F 11			.82
6 S 17			.16									<b>Kshaya.</b>														1 Mr 13			.35
3 S 6			.53	5 O 6			.06	6 N 4			.59	1 D 4			.13	<b>2</b>	2 Jr 2			.65		4 F 1			.18	5 Mr 2			.71
7 Au 26			.90	2 S 25			.43	3 O 24			.96	5 N 23			.49		7 D 23			.02	<b>3</b>	1 Jr 21			.55	3 F 20			.08
6 S 14			.80	1 O 14			.33	2 N 12			.86	4 D 12			.39	<b>4</b>	5 Jr 10			.92		7 F 9			.45	1 Mr 9			.98
4 S 3			.16	5 O 20			.69	7 N 1			.22	1 N 30			.75		3 D 30			.29	<b>5</b>	4 Jr 28			.82	6 F 27			.35
1 Au 23			.53	3 S 22			.06	4 O 21			.59	6 N 20			.12		7 D 19			.65	<b>6</b>	2 Jr 18			.18	3 F 16			.71
7 S 11			.43	1 O 10			.96	3 N 9			.49	5 D 9			.02	<b>7</b>	6 Jr 7			.55		1 F 6			.08	2 Mr 7			.61
4 Au 31			.79	6 S 30			.33	7 O 29			.86	2 N 28			.39		3 D 27			.92	<b>8</b>	5 Jr 26			.45	6 F 24			.98
2 Au 20			.16	3 S 18			.69	5 O 18			.22	6 N 16			.75		1 D 16			.28	<b>9</b>	2 Jr 14			.81	4 F 13			.35
1 S 8			.06	2 O 7			.59	4 N 6			.12	5 D 5			.65	<b>10</b>	7 Jr 4			.18		1 F 2			.71	3 Mr 4			.24
5 Au 28			.43	6 S 26			.96	1 O 26			.49	3 N 25			.02		4 D 24			.55	<b>11</b>	6 Jr 23			.08	7 F 21			.61
4 S 16			.32	5 O 15			.85	7 N 14			.39	1 D 13			.92	<b>12</b>	3 Jr 12			.45		4 F 10			.98	6 Mr 11			.51
1 S 4			.69	3 O 4			.22	4 N 2			.75	6 D 2			.28		7 D 31			.81	<b>13</b>	2 Jr 30			.34	3 F 23			.87
6 Au 25			.06	7 S 23			.59	2 O 23			.12	3 N 21			.65		5 D 21			.18	<b>14</b>	6 Jr 19			.71	1 F 18			.24
4 S 12			.96	6 O 12			.49	1 N 11			.02	2 D 10			.55	<b>15</b>	4 Jr 9			.08		5 F 7			.61	7 Mr 9			.14
2 S 2			.32	3 O 1			.85	5 O 31			.38	6 N 29			.91		1 D 29			.45	<b>16</b>	2 Jr 27			.98	4 F 26			.51
6 Au 21			.69	1 S 20			.22	2 O 19			.75	4 N 18			.28		5 D 17			.81	<b>17</b>	7 Jr 16			.34	1 F 14			.87
5 S 9			.59	7 O 9			.12	1 N 7			.65	3 D 7			.18	<b>18</b>	4 Jr 5			.71		6 F 4			.24	7 Mr 5			.77
2 Au 29			.95	4 S 28			.49	6 O 28			.02	7 N 26			.55		2 D 26			.08	<b>19</b>	3 Jr 24			.61	5 F 23			.14
7 Au 19			.32	3 O 17			.38	4 N 15			.91	6 D 15			.44	<b>20</b>	7 Jr 13			.97		2 F 12			.51	4 Mr 13			.04
1 S 17			.85									3 D 3			.81	<b>21</b>	5 Jr 2			.34		6 Jr 31			.87	1 Mr 2			.40
6 S 6			.22	7 O 5			.75	2 N 4			.28	1 N 23			.18		2 D 22			.71	<b>22</b>	4 Jr 21			.24	5 F 19			.77
3 Au 26			.59	5 S 25			.12	6 O 24			.65	7 D 12			.08	<b>23</b>	1 Jr 10			.61		3 F 9			.14	4 Mr 10			.67
2 S 14			.48	4 O 14			.01	5 N 12			.55						5 D 30			.97	<b>24</b>	7 Jr 29			.50	2 F 28			.03
6 S 3			.85	1 O 3			.38	2 N 1			.91	4 D 1			.44		3 D 19			.34	<b>25</b>	4 Jr 17			.87	6 F 16			.40
4 Au 23			.22	5 S 21			.75	7 O 21			.28	1 N 19			.81	<b>26</b>	2 Jr 7			.24		3 F 5			.77	5 Mr 7			.30
3 S 11			.12	4 O 10			.65	6 N 9			.18	7 D 8			.71		6 D 27			.61	<b>27</b>	1 Jr 26			.14	2 F 24			.67
7 Au 31			.48	2 S 30			.01	3 O 29			.54	5 N 28			.07		3 D 16			.97	<b>28</b>	5 Jr 15			.50	7 F 14			.03
4 Au 20			.85	6 S 19			.38	7 O 18			.91	2 N 17			.44		2 Jr 3			.87		4 F 2			.40	5 Mr 3			.93
3 S 7			.75	5 O 7			.28	6 N 5			.81	1 D 5			.34	<b>29</b>	7 D 24			.24		1 Jr 22			.77	3 F 21			.30
1 Au 28			.11	2 S 26			.65	4 O 26			.18	5 N 24			.71		6 Jr 12			.13	<b>30</b>	7 F 10			.67	2 Mr 12			.20
7 S 16			.01	1 O 15			.54	3 N 14			.07	4 D 13			.60	<b>31</b>													
4 S 5			.38	5 O 4			.91	7 N 3			.44	1 D 2			.97	<b>32</b>	3 Jr 1			.50		5 Jr 31			.03	6 F 29			.56
1 Au 24			.75	3 S 23			.28	4 O 22			.81	6 N 21			.34		7 D 20			.87	<b>33</b>	2 Jr 19			.40	3 F 17			.93
7 S 12			.64	2 O 12			.17	3 N 10			.71	5 D 10			.24	<b>34</b>	6 Jr 8			.77		1 F 7			.30	2 Mr 8			.83
5 S 2			.01	6 O 1			.54	1 O 31			.07	2 N 29			.60		4 D 29			.13	<b>35</b>	5 Jr 27			.66	7 F 26			.19
2 Au 22			.38	3 S 20			.91	5 O 20			.44	6 N 18			.97		1 D 18			.30	<b>36</b>	3 Jr 17			.03	4 F 15			.56
1 S 9			.28	2 O 8			.81	4 N 7			.34	5 D 6			.87	<b>37</b>	7 Jr 5			.40		1 F 3			.93	3 Mr 5			.46
5 Au 29			.64	7 S 28			.17	1 O 27			.70	3 N 26			.23		4 D 25			.77	<b>38</b>	6 Jr 24			.30	7 F 22			.83
3 Au 19			.01	6 O 17			.07	7 N 15			.60	2 D 15			.13	<b>39</b>	3 Jr 13			.66		5 F 12			.19	6 Mr 13			.72
4 S 17			.54																										

\* From A.D. 500 to A.D. 999 Arya Siddhanta figures have been given in detail, while Surya Siddhanta figures for the same period are given in abstract at pages 76—79 below.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

### TABLE X—

[illegible]

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

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+ 147.65293	+ 177.18353	+ 206.71411	+ 236.24470	+ 265.77529	+ 295.34688	+ 324.83647
+ 9.880	+ 11.856	+ 13.832	+ 15.808	+ 17.784	+ 19.760	+ 21.736
						+ 23.712

Asvina				Kartika				Margasira				Pausha				A.D.	Magha				A.D.	Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
6 S	3	29		7 O	2	82		2 N	1	35		3 N	30	88			5 D	30	41	19		6 Jr	28	94	1 F	27	48		
3 Au	23	66		5 S	22	19		6 O	21	72		1 N	20	25			2 D	19	78	20		4 Jr	18	31	5 F	16	84		
2 S	10	56		4 O	10	09		5 N	8	62		7 D	8	15	21		1 Jr	6	68			3 F	5	21	4 Mr	6	74		
6 Au	30	92		1 S	29	45		2 O	28	98		4 N	27	52			6 D	27	05	22		7 Jr	25	58	2 F	24	11		
5 S	18	82		7 O	18	35		Margasira Kshaya.				1 N	16	88			3 D	16	41	23		4 Jr	14	94	6 F	13	47		
3 S	8	19		4 O	7	72		6 N	6	25		7 D	5	78	24		2 Jr	4	31			3 F	2	84	1 Mr	15	00		
7 Au	27	56		2 S	26	09		3 O	25	62		5 N	24	15			6 D	23	68	25		1 Jr	22	21	2 F	20	74		
6 S	15	45		7 O	14	98		2 N	13	51		4 D	13	04	26		5 Jr	11	58			7 F	10	11	1 Mr	11	64		
3 S	4	82		5 O	4	35		6 N	2	88		1 D	2	41			2 D	31	94	27		4 Jr	30	47	6 Mr	10	00		
1 Au	25	19		2 S	23	72		4 O	23	25		5 N	21	78			7 D	21	31	28		1 Jr	19	84	3 F	18	37		
7 S	12	08		1 O	11	62		3 N	10	15		4 D	9	68	29		6 Jr	8	21			7 F	6	74	2 Mr	8	27		
4 S	1	45		5 S	30	98		7 O	30	51		2 N	29	04			3 D	28	57	30		5 Jr	27	10	6 F	25	64		
1 Au	21	82		3 S	20	35		4 O	19	88		6 N	18	41			7 D	17	94	31		2 Jr	16	47	4 F	15	00		
7 S	9	72		2 O	9	25		3 N	7	78		5 D	7	31	32		6 Jr	5	84			1 F	4	37	2 Mr	4	90		
5 Au	29	08		6 S	27	61		1 O	27	14		2 N	25	68			4 D	25	21	33		5 Jr	23	74	7 F	22	27		
3 S	16	98		5 O	16	51		7 N	15	04		1 D	14	57	34		3 Jr	13	10			4 F	11	63	6 Mr	13	16		
1 S	6	35		2 O	5	88		4 N	4	41		5 D	3	94	35		7 Jr	2	47			2 F	1	00	3 Mr	2	53		
5 Au	26	72		7 S	25	25		1 O	24	78		3 N	23	31			4 D	22	84	36		6 Jr	21	37	7 F	19	90		
4 S	13	61		6 O	13	14		7 N	11	67		2 D	11	20	37		3 Jr	9	74			5 F	8	27	6 Mr	9	80		
1 S	2	98		3 O	2	51		5 N	1	04		6 N	30	57			1 D	30	10	39		2 Jr	28	63	4 F	27	16		
6 Au	23	35		7 S	21	88		2 O	21	41		3 N	19	94			5 D	19	47	39		7 Jr	18	00	1 F	16	53		
5 S	11	24		6 O	10	78		1 N	9	31		2 D	8	84	40		4 Jr	7	37			5 F	5	90	7 Mr	6	43		
2 Au	30	61		4 S	29	14		5 O	28	67		7 N	27	20			1 D	26	73	41		3 Jr	25	26	4 F	23	80		
6 Au	19	98		3 O	18	04		Margasira Kshaya.				4 N	16	57			6 D	16	10	42		7 Jr	14	63	2 F	13	16		
1 S	18	51		7 O	7	41		1 N	5	94		3 D	5	47	43		5 Jr	4	00			6 F	2	53	3 Mr	14	69		
5 S	7	88		4 S	26	77		6 O	26	30		7 N	24	84			2 D	24	37	44		3 Jr	22	90	5 F	21	43		
3 Au	28	24		3 O	14	67		5 N	13	20		6 D	12	73	45		1 Jr	11	26			2 F	9	79	4 Mr	11	32		
2 S	15	14																											
6 S	4	51		1 O	4	04		2 N	2	57		4 D	2	10			5 D	31	63	46		7 Jr	30	16	1 F	28	69		
3 Au	24	88		5 S	23	41		6 O	22	94		1 N	21	47			3 D	21	00	47		4 Jr	19	53	6 F	18	06		
2 S	12	77		4 O	12	30		5 N	10	83		7 D	10	36	48		1 Jr	8	90			3 F	7	43	4 Mr	7	96		
7 S	1	14		1 S	30	67		3 O	30	20		4 N	28	73			6 D	28	26	49		7 Jr	26	79	2 F	25	32		
4 Au	21	51		7 S	20	04		7 O	19	57		2 N	18	10			3 D	17	63	50		5 Jr	16	16	6 F	14	69		
3 S	9	40		4 O	8	94		6 N	7	47		1 D	7	00	51		2 Jr	5	53			4 F	4	06	5 Mr	5	59		
7 Au	29	77		2 S	28	30		3 O	27	83		5 N	26	36			6 D	25	89	52		1 Jr	24	42	2 F	22	96		
6 S	16	67		1 O	16	20		2 N	14	73		4 D	14	26	53		5 Jr	12	79			7 F	11	32	1 Mr	12	85		
4 S	6	04		5 O	5	57		7 N	4	10		1 D	3	63	54		3 Jr	2	16			4 Jr	31	69	6 Mr	20	22		
1 Au	26	40		2 S	24	93		4 O	24	46		6 N	23	00			7 D	22	53	55		2 Jr	21	06	3 F	19	59		
7 S	1	30		1 O	13	83		3 N	12	36		4 D	11	89	56		6 Jr	10	42			7 F	8	95	2 Mr	9	48		
4 S	2	67		6 O	2	20		7 O	31	73		2 N	30	26			3 D	29	79	57		5 Jr	28	32	6 F	26	85		
2 Au	23	04		3 S	21	57		5 O	21	10		6 N	19	63			1 D	19	16	58		2 Jr	17	69	4 F	16	22		





**TABLE X-**

Kaliyuga.			Vikrama Era.			Saka Era.			Com- mence- ment of Solar Year			First New-Moon in Solar Year.			Anomaly of first New-Moon.			A.D.			Week-day of 1st January.			Vaisakha			Jyeshtha			Ashada			Sravana			Bhadrapada																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					



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+ 147-65293				+ 177-18353				+ 206-71411				+ 236-24470				+ 266-77528				+ 295-30588				{ + 324-83647 + 354-36705 + 21-736 + 23-712			
+ 9-880				+ 11-856				+ 13-832				+ 15-808				+ 17-784				+ 19-760							
Aayina				Kartika				Margasira				Pausa				A.D. Magha				A.D. Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
3 Au	30	·68		5 S	29	·21		6 O	28○	·74		1 N	27○	·27		2 D	26	·80	98	4 Jr	25	·33		5 F	23	·83	
1 Au	20	·04		5 O	18○	·10		5 N	16	·64		7 D	16	·17	99	1 Jr	84	·70		3 F	13	·28		4 Mr	14	·76	
2 S	18	·57																									
6 S	7	·94		1 O	7○	·47		3 N	6	·00		4 D	5	·53	200	6 Jr	4	·06		7 F	2	·59		2 Mr	3	·12	
4 Au	27	·31		5 S	25	·84		7 O	25	·37		1 N	23	·90		3 D	23	·43	01	4 Jr	21	·96		6 F	20○	·49	
3 S	15	·21		4 O	14	·74		6 N	13	·27		7 D	12	·80	02	2 Jr	11	·33		3 F	9○	·86		5 Mr	11●	·39	
7 S	4	·57		2 O	4	·10		3 N	2	·63		5 D	2	·16		6 D	31	·70	03	1 Jr	30○	·23		2 F	28	·76	
4 Au	24	·94		6 S	23	·47		1 O	23	·00		2 N	21	·53		4 D	21	·06	04	5 Jr	19	·59		7 F	18	·12	
3 S	11	·84		5 O	11	·37		6 N	9	·90		1 D	9○	·43	05	2 Jr	7	·96		4 F	6	·49		6 Mr	8	·02	
1 S	1	·20		2 S	30	·74		4 O	30	·27		5 N	28○	·80		7 D	28●	·33	06	1 Jr	26	·86		3 F	25	·39	
5 Au	21	·57		7 S	20	·10		1 O	19	·63		3 N	18○	·16		4 D	17	·69	07	6 Jr	16	·22		7 F	14	·76	
4 S	9	·47		6 O	9	·00		7 N	7	·53		2 D	7	·06	08	3 Jr	5	·59		5 F	4	·12		6 Mr	4	·65	
1 Au	28	·84		3 S	27	·37		4 O	26●	·90		6 N	25	·43		7 D	24	·96	09	2 Jr	23	·49		4 F	22	·02	
7 S	16○	·73		2 O	16●	·26		3 N	14	·80		5 D	14	·33	10	6 Jr	12	·86		1 F	11	·39		2 Mr	12○	·92	
5 S	6○	·10		6 O	5	·63		1 N	4	·16		2 D	3	·69	11	4 Jr	2	·22		5 Jr	31	·75		7 Mr	2●	·28	
2 Au	26●	·47		4 S	25	·00		5 O	24	·53		7 N	23	·06		1 D	22	·59	12	3 Jr	21○	·12		4 F	19	·65	
1 S	13	·37		2 O	12	·90		4 N	11	·43		5 D	10	·96	13	7 Jr	9○	·49		2 F	8	·02		3 Mr	9	·55	
5 S	2	·73		7 O	2	·26		1 O	31	·79		3 N	30	·32		4 D	29○	·86	14	6 Jr	28	·39		7 F	26	·92	
3 Au	23	·10		4 S	21	·63		6 O	21	·16		7 N	19	·69		2 D	19	·22	15	3 Jr	17	·75		5 F	16	·28	
2 S	11	·00		3 O	10	·53		5 N	9	·06		6 D	8	·53	16	1 Jr	7	·12		2 F	5	·65		4 Mr	6	·18	
6 Au	30	·36		7 S	28	·90		2 O	28○	·43		3 N	26	·96		5 D	26	·49	17	7 Jr	25	·02		1 F	23	·55	
3 Au	19	·73		6 O	17○	·79		1 N	16	·32		2 D	15	·85	18	4 Jr	14	·38		5 F	12	·92		7 Mr	14	·45	
5 S	18	·26																									
2 S	7	·63		4 O	7○	·16		5 N	5	·69		7 D	5	·22	19	1 Jr	3	·75		3 F	2	·28		4 Mr	3○	·81	
7 Au	28○	·00		1 S	26	·53		3 O	26	·06		4 N	24	·59		6 D	24	·12	20	7 Jr	22	·65		2 F	21○	·18	
5 S	14	·89		7 O	14	·42		1 N	12	·96		3 D	12	·49	21	5 Jr	11	·02		6 F	9○	·55		1 Mr	11	·08	
3 S	4	·26		4 O	3	·79		6 N	2	·32		7 D	1	·85		2 D	31	·38	22	3 Jr	29●	·91		5 F	28	·44	
7 Au	24	·63		2 S	23	·16		3 O	22	·69		5 N	21	·22		6 D	20○	·75	23	1 Jr	19●	·28		2 F	17	·81	
6 S	12	·53		1 O	12	·06		2 N	10	·59		4 D	19○	·12	24	5 Jr	8●	·65		7 F	7	·18		1 Mr	7	·71	
3 Au	31	·89		5 S	30	·42		6 O	29	·95		1 N	28○	·48		3 D	28	·02	25	4 Jr	26	·55		6 F	25	·08	
1 Au	21	·26		2 S	19	·79		4 O	19	·32		5 N	17●	·85		7 D	17	·38	26	1 Jr	15	·91		3 F	14	·44	
7 S	9	·16		1 O	8	·69		3 N	7●	·22		4 D	6	·75	27	6 Jr	5	·28		7 F	3	·81		4 Mr	15	·97	
4 Au	29	·52		6 S	28○	·06		7 O	27	·59		2 N	26	·12		3 D	25	·65	28	5 Jr	24	·18		2 Mr	5	·34	
3 S	16○	·42		4 O	15	·95		6 N	14	·48		1 D	14	·01	29	2 Jr	12	·54		4 F	11	·08		6 F	22	·71	
7 S	5	·79		2 O	5	·32		3 N	3	·85		5 D	3	·38	30	6 Jr	1	·91		1 Jr	31○	·44		2 Mr	1	·97	
5 Au	26●	·16		6 S	24	·69		1 O	24	·22		2 N	22	·75		4 D	22	·28	31	5 Jr	20○	·81		7 F	19	·34	
4 S	14	·05		5 O	13	·58		7 N	12	·12		1 D	11	·65	32	3 Jr	10●	·18		4 F	8	·71		6 Mr	9	·24	
1 S	2	·42		2 O	1	·95		4 O	31	·48		6 N	30	·01		7 D	29●	·54	33	2 Jr	28	·07		3 F	26	·60	
5 Au	22	·79		7 S	21	·32		1 O	20	·85		3 N	19	·38		4 D	18	·91	34	6 Jr	17	·44		7 F	15	·97	
4 S	10	·69		6 O	10	·22		7 N	8○	·75		2 D	8	·28	35	3 Jr	6	·81		5 F	5	·34		6 Mr	6	·87	
2 Au	31	·05		3 S	29	·58		5 O	29●○	·11		6 N	27	·64		1 D	27	·18	36	2 Jr	25	·71		4 F	24	·24	
7 S	17	·95		2 O	17○	·48		4 N	16	·01		5 D	15	·54	37	7 Jr	14	·07		1 F	12	·60		3 Mr	14	·13	



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.		
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.										
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25		
July	11	21	29					8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



## Surya Siddhanta.

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 + 17·784

+ 295·30588  
 + 19·760

+ 324·83647  
 + 354·36705  
 + 21·736  
 + 23·712

Aavina				Kartika				Margasira				Pausha				A.D.	Magha				A.D.	Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
5 Au	24	·45		6 S	22	·98	1 O	22	·51	3 N	21	·04					4 D	·0	·57			6 Jr	19	·10		7 F	17	·63	
4 S	11	·34		5 O	10	·87	7 N	9	·40	1 D	8	·93				57	3 Jr	7	·47			5 F	6	·00		6 Mr	7	·53	
1 Au	31	·71		3 S	30	·24	4 O	29	·77	6 N	28	·30					7 D	27	·83			2 Jr	26	·36		3 F	24	·89	
6 Au	21	·08		2 O	19	·14	3 N	17	·67	5 D	17	·20				59	6 Jr	15	·73			1 F	14	·26		2 Mr	15	·79	
7 S	19	·61																				5 F	3	·63		7 Mr	4	·16	
4 S	8	·97		6 O	8	·31	1 N	7	·04	2 D	6	·57				60	4 Jr	5	·10			2 Jr	22	·99		4 F	21	·53	
2 Au	28	·34		3 S	26	·87	5 O	26	·40	6 N	24	·93				62	1 D	24	·46			1 F	10	·89		3 Mr	12	·42	
1 S	16	·24		2 O	15	·77	4 N	14	·30	5 D	13	·83					7 Jr	12	·36										
5 S	5	·61		7 O	5	·14	1 N	3	·67	3 D	3	·20				63	4 Jr	1	·73			6 Jr	31	·26		7 Mr	1	·76	
2 Au	25	·97		4 S	24	·50	6 O	24	·03	7 N	22	·57				65	2 D	22	·10			3 Jr	20	·63		5 F	19	·19	
1 S	12	·87		3 O	12	·40	4 N	10	·93	6 D	10	·46					7 Jr	8	·99			2 F	7	·52		4 Mr	9	·08	
6 S	2	·24		7 O	1	·77	2 O	31	·30	3 N	29	·83					5 D	29	·36			6 Jr	27	·89		1 F	26	·42	
3 Au	22	·61		5 S	21	·14	6 O	20	·67	1 N	19	·20					2 D	18	·73			4 Jr	17	·26		7 Mr	17	·32	
2 S	10	·50		4 O	10	·03	5 N	8	·56	7 D	8	·09				68	1 Jr	6	·63			5 F	15	·79		4 Mr	5	·69	
6 Au	29	·87		1 S	28	·40	2 O	27	·93	4 N	26	·46				70	5 D	25	·99			7 Jr	24	·52		2 F	23	·05	
5 S	17	·77		7 O	17	·30	1 N	15	·83	3 D	15	·36					4 Jr	13	·89			6 F	12	·42		7 Mr	13	·95	
3 S	7	·13		4 O	6	·67	6 N	5	·20	7 D	4	·73				71	2 Jr	3	·26			3 F	1	·79		5 Mr	3	·32	
7 Au	27	·50		2 S	26	·03	3 O	25	·56	5 N	24	·09				73	6 D	23	·62			1 Jr	22	·15		2 F	20	·69	
6 S	14	·40		7 O	13	·93	2 N	12	·46	3 D	11	·99					5 Jr	10	·52			7 F	9	·05		1 Mr	10	·58	
3 S	3	·77		5 O	3	·30	6 N	1	·83	1 D	1	·36					2 D	30	·89			4 Jr	29	·42		5 F	27	·95	
1 Au	24	·13		2 S	22	·66	4 O	22	·19	5 N	20	·73				76	7 D	20	·26			1 Jr	18	·79		3 F	17	·32	
7 S	12	·03		1 O	11	·56	3 N	10	·09	4 D	9	·62					6 Jr	8	·15			7 F	6	·68		2 Mr	7	·21	
4 Au	31	·40		5 S	29	·93	7 O	29	·46	1 N	27	·99					3 D	27	·52			5 Jr	26	·05		6 F	24	·58	
3 S	19	·30		4 O	18	·83	6 N	17	·36	7 D	16	·89				78	2 Jr	15	·42			3 F	13	·95		5 Mr	15	·48	
7 S	8	·66		2 O	8	·19	3 N	6	·72	5 D	6	·25				79	6 Jr	4	·79			1 F	3	·32		2 Mr	4	·85	
5 Au	29	·03		6 S	27	·56	1 O	27	·09	2 N	25	·62				81	4 D	25	·15			5 Jr	23	·68		7 F	22	·21	
3 S	15	·93		5 O	15	·46	6 N	13	·99	1 D	13	·52					3 Jr	12	·05			4 F	10	·58		6 Mr	12	·11	
1 S	5	·29		2 O	4	·83	4 N	3	·36	5 D	2	·89				82	7 Jr	1	·42			1 Jr	30	·95		3 Mr	1	·48	
5 Au	25	·66		7 S	24	·19	1 O	23	·72	3 N	22	·25				84	4 D	21	·78			6 Jr	20	·31		7 F	18	·85	
4 S	13	·56		6 O	13	·09	7 N	11	·62	2 D	11	·15					3 Jr	9	·68			5 F	8	·21		6 Mr	8	·74	
1 S	1	·93		3 O	1	·46	4 O	30	·99	6 N	29	·52					1 D	29	·05			2 Jr	27	·58		4 F	26	·11	
6 Au	22	·29		7 S	20	·82	2 O	20	·35	3 N	18	·89					5 D	18	·42			6 Jr	16	·95		3 Mr	17	·01	
5 S	10	·19		6 O	9	·72	1 N	8	·25	2 D	7	·78				87	4 Jr	6	·31			1 F	15	·48		7 Mr	6	·37	
2 Au	30	·56		4 S	29	·09	5 O	28	·62	7 N	27	·15				89	1 D	26	·68			5 F	4	·84		4 F	23	·74	
1 S	17	·46		2 O	16	·99	4 N	15	·52	6 D	15	·05					7 Jr	13	·58			3 Jr	25	·21		3 Mr	13	·64	
5 S	6	·82		7 O	6	·35	1 N	4	·88	3 D	4	·41				90	4 Jr	2	·95			6 F	1	·48		1 Mr	3	·01	
3 Au	27	·19		4 S	25	·72	6 O	25	·25	7 N	23	·78				92	2 D	23	·31			3 Jr	21	·84		5 F	20	·37	
2 S	15	·09		3 O	14	·62	5 N	13	·15	6 D	12	·68					1 Jr	11	·21			2 F	9	·74		4 Mr	10	·27	
6 S	3	·45		7 O	2	·99	2 N	1	·52	4 D	1	·05					5 D	30	·58			7 Jr	29	·11		1 F	27	·64	
3 Au	23	·82		5 S	22	·35	6 O	21	·88	1 N	20	·41					2 D	19	·94			4 Jr	18	·47		6 F	17	·01	

**TABLE X—**[illegible]

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE X-

			Com- mence- ment of Solar Year.		First New-Moon in Solar Year.		Anomaly of first New-Moon.		A.D.		Week-day of 1st January.		Vaisakha		Jyeshtha		Ashada		Sravana		Bhadrapada		O's Anom col. 6.		C's Anom col. 7.			
			Month and day A.D. Fraction of day.										Week-day Month Day Fraction		Week-day Month Day Fraction		Week-day Month Day Fraction		Week-day Month Day Fraction		Week-day Month Day Fraction							
3534	490	355	18M	0246	18-7859	25-161	433	1	4	Ap	5	81	6	My	5	84	7	Je	3	87	2	Jl	3	40	3	Au	1	93
3535	491	356	18M	2834	7-8939	21-319	434	2	2	Mr	26	18	3	Ap	24	71	5	My	24	24	6	Je	22	77	1	Jl	22	30
3536	492	357	18M	5422	26-5328	19-452	435	3	1	Ap	14	07	2	My	13	60	4	Je	12	14	5	Jl	11	67	2	Au	20	83
3537	493	358	17M	8009	15-6411	15-609	436	4	5	Ap	22	44	6	My	1	97	1	My	31	50	3	Je	30	03	7	Au	10	20
3538	494	359	18M	0597	4-7494	11-766	437	6	2	Mr	2	81	4	Ap	21	34	5	My	20	87	1	Jl	18	93	4	Jl	29	56
3539	495	360	18M	3184	23-3882	9-900	438	7	1	Ap	10	71	3	My	10	24	4	Je	8	77	6	Jl	8	30	7	Au	6	83
3540	496	361	18M	5772	12-4965	6-057	439	1	6	Mr	31	07	7	Ap	29	60	2	My	29	13	3	Je	27	66	5	Jl	27	20
3541	497	362	17M	8359	1-6048	2-214	440	2	3	Mr	19	44	4	Ap	17	97	1	Je	16	03	2	Jl	15	56	4	Au	14	09
3542	498	363	18M	0947	20-2437	0-347	441	4	2	Ap	7	34	3	My	6	87	5	Je	5	40	6	Jl	4	93	1	Au	3	46
3543	499	364	18M	3535	9-3520	24-059	442	5	6	Mr	27	70	1	Ap	26	24	2	My	25	77	4	Je	24	30	5	Jl	23	83
3544	500	365	18M	6122	27-9909	22-192	443	6	5	Ap	15	60	7	My	15	13	1	Je	13	66	3	Jl	13	19	4	Au	11	72
3545	501	366	17M	8710	17-0992	18-350	444	7	2	Ap	3	97	4	My	3	50	6	Je	2	03	7	Jl	1	56	2	Jl	31	09
3546	502	367	18M	1297	6-2075	14-507	445	2	7	Mr	24	34	1	Ap	22	87	3	My	22	40	4	Je	20	93	7	Au	18	99
3547	503	368	18M	3885	24-8464	12-640	446	3	6	Ap	12	23	7	My	11	76	2	Je	10	30	3	Jl	20	46	5	Au	8	36
3548	504	369	18M	6472	13-9547	8-797	447	4	3	Ap	1	60	5	My	1	13	6	My	30	66	1	Je	9	83	2	Jl	28	72
3549	505	370	17M	9060	3-0630	4-955	448	5	7	Mr	20	97	2	Ap	19	50	5	Je	17	56	7	Jl	17	09	1	Au	15	62
3550	506	371	18M	1648	21-7018	3-088	449	7	6	Ap	8	87	1	My	8	40	2	Je	6	93	4	Jl	6	46	5	Au	4	99
3551	507	372	18M	4235	10-8102	26-800	450	1	4	Mr	29	23	5	Ap	27	76	7	My	27	29	1	Je	25	82	3	Jl	25	36
3552	508	373	18M	6823	29-4491	24-933	451	2	1	Mr	18	60	4	My	16	66	6	Je	15	19	7	Jl	14	72	2	Au	13	25
3553	509	374	17M	9410	18-5574	21-090	452	3	7	Ap	5	50	2	My	5	03	3	Je	3	56	5	Jl	3	09	6	Au	1	62
3554	510	375	18M	1998	7-6657	17-248	453	5	4	Mr	25	86	6	Ap	24	40	7	My	23	93	2	Je	22	46	3	Jl	21	99
3555	511	376	18M	4585	26-3046	14-381	454	6	3	Ap	13	76	5	My	13	29	6	Je	11	82	1	Jl	11	35	5	Au	20	52
3556	512	377	18M	7173	15-4128	11-538	455	7	1	Ap	3	13	2	My	2	66	4	Je	1	19	5	Je	30	72	2	Au	9	88
3557	513	378	17M	9760	4-5211	7-695	456	1	5	Mr	22	50	7	Ap	21	03	1	My	20	56	4	Jl	18	62	6	Au	17	15
3558	514	379	18M	2348	23-1600	5-829	457	3	4	Ap	10	39	5	My	9	92	7	Je	8	46	1	Jl	7	99	3	Au	6	52
3559	515	380	18M	4936	12-2683	1-986	458	4	1	Mr	30	76	3	Ap	29	29	4	Je	13	35	5	Jl	12	88	7	Au	11	41
3560	516	381	18M	7523	1-3766	25-698	459	5	6	Mr	20	13	7	Ap	18	66	3	Je	16	72	6	Je	27	35	7	Jl	26	88
3561	517	382	18M	0111	20-0155	23-831	460	6	5	Ap	7	03	6	My	6	56	1	Je	5	09	2	Jl	4	62	4	Au	3	15
3562	518	383	18M	2698	9-1238	19-988	461	1	2	Mr	27	39	3	Ap	25	92	5	My	25	45	6	Je	23	98	1	Jl	23	52
3563	519	384	18M	5286	27-7627	18-121	462	2	1	Ap	15	29	2	My	14	82	4	Je	13	35	5	Jl	12	88	3	Au	22	05
3564	520	385	18M	7873	16-8710	14-279	463	3	5	Ap	4	66	7	My	4	19	1	Je	2	72	3	Jl	2	25	4	Jl	31	78
3565	521	386	18M	0461	5-9793	10-436	464	4	3	Mr	24	02	4	Ap	22	56	6	My	22	09	7	Je	20	62	3	Au	18	68
3566	522	387	18M	3049	24-6182	8-569	465	6	1	Ap	11	92	3	My	11	45	4	Je	9	98	6	Jl	9	51	1	Au	8	04
3567	523	388	18M	5636	13-7242	4-726	466	7	6	Ap	1	29	7	Ap	30	82	2	My	30	35	3	Je	28	88	5	Jl	28	41
3568	524	389	18M	8224	2-8347	0-884	467	1	3	Mr	21	66	5	Ap	20	19	1	Je	18	25	2	Jl	17	78	4	Au	16	31
3569	525	390	18M	0811	21-4737	26-571	468	2	2	Ap	8	55	4	My	8	08	5	Je	6	62	7	Jl	6	15	1	Au	4	68
3570	526	391	18M	3399	10-5826	22-729	469	4	6	Mr	28	92	1	Ap	27	45	2	My	26	98	4	Je	25	51	6	Jl	25	04
3571	527	392	18M	5986	29-2209	20-862	470	5	4	Mr	18	29	7	My	16	35	1	Je	14	88	3	Jl	14	41	4	Au	12	94
3572	528	393	18M	8574	18-3292	17-019	471	6	3	Ap	6	19	4	My	5	72	6	Je	4	25	7	Jl	3	78	2	Au	2	31

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE X-

Kaliyuga	Vikrama Era	Saka Era	Month and day A.D.	Commencement of Solar Year.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	Week-day of 1st January.	☉'s Anom col. 6					☾'s Anom col. 7					+ 29°53059					+ 59°06117					+ 88°59176					+ 118°12235					+ 1°976					+ 3°952					+ 5°928					+ 7°904																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
									Vaisakha					Jyeshtha					Ashada					Sravana					Bhadrapada																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
									Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
3612	568	433	19M	2066	25-59832	2-806	511	7	4	Ap	13	81	6	My	13	34	7	Je	11	87	2	Jl	11	40	3	Au	9	93	3613	569	434	18M	4653	14-70676	26-518	512	1	2	Ap	2	17	3	My	1	70	5	My	31	24	6	Je	29	77	1	Jl	29	30	3614	570	435	18M	7240	3-81519	22-677	513	3	6	Mr	22	54	1	Ap	21	07	2	My	20	60	5	Jl	18	66	6	Au	17	19	3615	571	436	18M	9826	22-45421	20-810	514	4	5	Ap	10	44	6	My	9	97	1	Je	8	50	3	Jl	8	03	4	Au	6	56	3616	572	437	19M	2413	11-56265	16-968	515	5	2	Mr	30	81	4	Ap	29	34	5	My	28	87	7	Je	27	40	1	Jl	26	93	3617	573	438	18M	5000	0-67109	13-126	516	6	7	Mr	19	17	3	My	17	23	4	Je	15	76	6	Jl	15	30	7	Au	13	88	3618	574	439	18M	7587	19-31011	11-260	517	1	6	Ap	7	07	7	My	6	60	2	Je	5	13	3	Jl	4	66	5	Au	3	19	3619	575	440	19M	0174	8-41855	7-417	518	2	3	Mr	27	44	4	Ap	25	97	6	My	25	50	1	Je	24	03	2	Jl	23	56	3620	576	441	19M	2760	27-05757	5-551	519	3	2	Ap	15	34	3	My	14	87	5	Je	13	40	6	Jl	12	93	1	Au	11	46	3621	577	442	18M	5347	16-16600	1-709	520	4	6	Ap	3	70	1	My	3	23	2	Je	1	76	4	Jl	10	29	5	Jl	30	82	3622	578	443	18M	7934	5-27444	25-421	521	6	4	Mr	24	07	5	Ap	22	60	7	My	22	13	3	Jl	20	19	4	Au	18	72	3623	579	444	19M	0521	23-91347	23-555	522	7	2	Ap	11	97	4	My	11	50	6	Je	10	03	7	Jl	9	56	2	Au	8	09	3624	580	445	19M	3108	13-02189	19-713	523	1	7	Ap	1	33	1	Ap	30	86	3	My	30	40	4	Je	28	93	6	Jl	28	46	3625	581	446	18M	5694	2-13033	15-870	524	2	4	Mr	20	70	6	Ap	19	23	2	Je	17	29	4	Jl	16	82	5	Au	15	35	3626	582	447	18M	8281	20-76936	14-004	525	4	3	Ap	8	60	5	My	8	13	6	Je	6	66	1	Jl	6	19	2	Au	4	72	3627	583	448	19M	0868	9-87779	10-162	526	5	7	Mr	28	97	2	Ap	27	50	4	My	27	03	5	Je	25	56	7	Jl	25	09	3328	584	449	19M	3455	28-51682	8-295	527	6	6	Ap	16	86	1	My	16	39	2	Je	14	92	4	Jl	14	46	5	Au	12	99	3629	585	450	18M	6042	17-62526	4-453	528	7	4	Ap	5	23	5	My	4	76	7	Je	3	29	1	Jl	2	82	3	Au	10	35	3630	586	451	18M	8628	6-73368	0-611	529	2	1	Mr	25	60	3	Ap	24	13	4	My	23	66	6	Je	22	19	2	Au	20	25	3631	587	452	19M	1215	25-37271	26-299	530	3	7	Ap	13	50	2	My	13	03	3	Je	11	56	5	Jl	11	09	6	Au	9	62	3632	588	453	19M	3802	14-48115	22-457	531	4	4	Ap	2	86	6	My	2	39	7	My	31	92	2	Je	30	45	3	Jl	29	98	3633	589	454	18M	6389	3-58958	18-614	532	5	2	Mr	22	23	3	Ap	20	76	5	My	20	29	1	Jl	18	35	2	Au	16	88	3634	590	455	18M	8976	22-22861	16-749	533	7	1	Ap	10	13	2	My	9	66	4	Je	8	19	5	Jl	7	72	7	Au	6	25	3635	591	456	19M	1562	11-33705	12-906	534	1	5	Mr	30	49	7	Ap	29	02	1	My	28	56	3	Je	27	09	4	Jl	26	62	3636	592	457	19M	4149	0-44547	9-064	535	2	2	Mr	19	86	5	My	17	92	7	Je	16	45	1	Jl	15	98	3	Au	14	51	3637	593	458	18M	6736	19-08450	7-198	536	3	1	Ap	6	76	3	My	6	29	4	Je	4	82	6	Jl	4	35	7	Au	2	88	3638	594	459	18M	9323	8-19294	3-356	537	5	6	Mr	27	13	7	Ap	25	66	2	My	25	19	3	Je	23	72	5	Jl	23	25	3639	595	460	19M	1910	26-83226	1-490	538	6	5	Ap	15	02	6	My	14	55	1	Je	13	08	2	Jl	18	62	4	Au	11	15	3640	596	461	19M	4496	15-94039	25-202	539	7	2	Ap	4	39	3	My	3	92	5	Je	2	45	6	Jl	10	98	1	Jl	31	51	3641	597	462	18M	7083	5-04883	21-359	540	1	6	Mr	23	76	1	Ap	22	29	2	My	21	82	5	Jl	19	88	7	Au	18	41	3642	598	463	18M	9670	23-68785	19-493	541	3	5	Ap	11	66	7	My	11	19	1	Je	9	12	3	Jl	9	25	4	Au	7	78	3643	599	464	19M	2257	12-79629	15-651	542	4	3	Ap	1	02	4	Ap	30	55	6	My	30	08	7	Je	28	61	2	Jl	28	14	3644	600	465	19M	4844	1-90473	11-809	543	5	7	Mr	21	39	1	Ap	19	92	4	Je	17	95	6	Jl	17	51	1	Au	16	04	3645	601	466	18M	7430	20-54375	9-942	544	6	6	Ap	8	29	7	My	7	82	2	Je	6	35	3	Jl	5	88	5	Au	4	41	3646	602	467	19M	0017	9-65218	6-100	545	1	3	Mr	28	65	5	Ap	27	28	6	My	26	72	1	Je	25	25	2	Jl	24	78	3647	603	468	19M	2604	28-29121	4-234	546	2	2	Ap	16	55	4	My	16	08	5	Je	14	61	7	Jl	14	14	1	Au	12	67	3648	604	469	19M	5191	17-39964	0-392	547	3	6	Ap	5	92	1	My	5	45	2	Je	3	98	4	Jl	3	51	6	Au	20	04	3649	605	470	18M	7778	6-50808	24-104	548	4	4	Mr	25	29	5	Ap	23	82	7	My	23	35	1	Je	21	88	4	Au	19	94	3650	606	471	19M	0365	25-14711	22-238	549	6	3	Ap	13	18	4	My	12	71	6	Je	11	24	7	Jl	10	78	2	Au	9	31

N.B.—For Surya Siddhanta-figures for A.D. 500 to A.D. 999 see pages 76—79 below.



## Arya Siddhanta.

+ 147.65293	+ 177.18353	+ 206.71411	+ 236.24470	+ 265.77529	+ 295.30588	+ 324.88647		
+ 9.880	+ 11.856	+ 13.832	+ 15.808	+ 17.784	+ 19.760	+ 21.736		
						+ 23.712		
						+ 254.36705		
						+ 28.712		
<b>Asvina</b>	<b>Kartika</b>	<b>Margasira</b>	<b>Pausha</b>	<b>A.D.</b>	<b>Magha</b>	<b>A.D.</b>	<b>Phalguna</b>	<b>Chaitra</b>
Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction		Week-day Month Day Fraction		Week-day Month Day Fraction	Week-day Month Day Fraction
5 S 8 .46	7 O 8 .09	1 N 6 .52	3 D 6 .05	12	4 Jr 4 .58		6 F 3 .11	7 Mr 3 .64
2 Au 27 .83	4 S 26 .36	5 O 25 .89	7 N 24 .42	13	1 D 23 .95	13	3 Jr 22 .48	5 F 21 .01
1 S 15 .72	3 O 15 .26	4 N 13 .79	6 D 13 .32	14	7 Jr 11 .85		2 F 10 .38	3 Mr 11 .91
6 S 5 .09	7 O 4 .62	2 N 3 .15	3 D 2 .68	15	5 Jr 1 .21		6 Jr 30 .74	1 Mr 1 .28
3 Au 25 .46	4 S 23 .99	6 O 23 .52	1 N 22 .05	16	2 D 21 .58	16	4 Jr 20 .11	5 F 18 .64
2 S 12 .36	3 O 11 .89	5 N 10 .42	6 D 9 .95	17	1 Jr 8 .48		3 F 7 .01	4 Mr 8 .54
6 S 10 .72	1 O 1 .25	2 O 30 .78	4 N 29 .32	18	5 D 28 .85	18	7 Jr 27 .38	1 F 25 .91
5 S 20 .62	7 O 20 .15	1 N 18 .68	3 D 18 .21	19	4 Jr 16 .74		6 F 15 .27	7 Mr 16 .80
2 S 9 .99	4 O 9 .52	6 N 8 .05	7 D 7 .58	20	2 Jr 6 .11		3 F 4 .64	5 Mr 5 .17
7 Au 29 .36	1 S 27 .89	3 O 27 .42	4 N 25 .95	21	6 D 25 .48	21	1 Jr 24 .01	2 F 22 .54
6 S 17 .25	7 O 16 .78	2 N 15 .31	3 D 14 .84	22	5 Jr 13 .38		7 F 11 .91	1 Mr 13 .44
3 S 6 .62	5 O 6 .15	6 N 4 .68	1 D 4 .21	23	2 Jr 2 .74		4 F 1 .27	5 Mr 2 .80
1 Au 26 .99	2 S 25 .52	4 O 25 .05	5 N 23 .58	24	7 D 23 .11	24	1 Jr 21 .64	3 F 20 .17
6 S 13 .88	1 O 13 .42	2 N 11 .95	4 D 11 .48	25	6 Jr 10 .01		7 F 8 .54	2 Mr 10 .07
4 S 3 .25	5 O 2 .78	7 N 1 .31	1 N 30 .84		3 D 30 .37	26	4 Jr 28 .90	6 F 27 .44
1 Au 23 .62	3 S 22 .15	6 N 20 .21	<b>Pausha</b>		7 D 19 .74	27	2 Jr 18 .27	5 Mr 18 .33
	4 O 21 .68		<b>Kshaya</b>				3 F 16 .80	
7 S 11 .52	2 O 11 .05	3 N 9 .58	5 D 9 .11	28	6 Jr 7 .64		1 F 6 .77	2 Mr 6 .70
4 Au 30 .88	6 S 29 .41	7 O 28 .94	2 N 27 .48	29	4 D 27 .01	29	5 Jr 25 .45	7 F 24 .07
3 S 18 .78	5 O 18 .31	6 N 16 .84	1 D 16 .37	30	2 Jr 14 .90		4 F 13 .43	5 Mr 14 .96
1 S 8 .15	2 O 7 .68	4 N 6 .21	5 D 5 .74	31	7 Jr 4 .27		1 F 2 .80	3 Mr 4 .33
5 Au 28 .52	7 S 27 .05	1 O 26 .58	3 N 25 .11	32	4 D 24 .64	32	6 Jr 23 .17	7 F 21 .70
4 S 15 .41	5 O 14 .94	7 N 13 .47	2 D 13 .00	33	3 Jr 11 .54		5 F 10 .07	6 Mr 11 .60
1 S 4 .78	3 O 4 .31	4 N 2 .84	6 D 2 .37		7 D 31 .90	34	2 Jr 30 .43	3 F 28 .96
6 Au 25 .15	7 S 23 .68	2 O 23 .21	3 N 21 .74	35	5 D 21 .27	35	6 Jr 19 .80	1 F 18 .33
5 S 13 .04	6 O 12 .58	1 N 11 .11	2 D 10 .64	36	4 Jr 9 .17		5 F 7 .70	7 Mr 8 .23
2 S 10 .41	3 S 30 .94	5 O 30 .47	7 N 29 .00		1 D 28 .53	37	3 Jr 27 .06	4 F 25 .60
1 S 20 .31	2 O 19 .84	4 N 18 .37	5 D 17 .90	38	7 Jr 16 .43		1 F 14 .96	3 Mr 16 .49
5 S 9 .68	7 O 9 .21	1 N 7 .74	3 D 7 .27	39	4 Jr 5 .80		6 F 4 .38	7 Mr 5 .86
3 Au 30 .04	4 S 28 .57	6 O 28 .10	7 N 26 .64	40	2 D 26 .17	40	3 Jr 24 .70	5 F 23 .23
1 S 16 .94	3 O 16 .47	5 N 15 .00	6 D 14 .53	41	1 Jr 13 .06		2 F 11 .59	4 Mr 13 .12
6 S 6 .31	7 O 5 .84	2 N 4 .37	3 D 3 .90	42	5 Jr 2 .43		6 Jr 31 .96	1 Mr 2 .49
3 Au 26 .68	5 S 25 .21	6 O 24 .74	1 N 23 .27	43	2 D 22 .80	43	4 Jr 21 .33	5 F 19 .86
2 S 14 .57	4 O 14 .10	5 N 12 .63	7 D 12 .16	44	1 Jr 10 .70		3 F 9 .23	4 Mr 9 .76
6 S 2 .94	1 O 2 .47	3 N 1 .00	4 N 30 .53		6 D 30 .06	45	7 Jr 28 .59	2 F 27 .12
4 Au 23 .31	5 S 21 .84	1 N 19 .90	<b>Pausha</b>		3 D 19 .43	46	4 Jr 17 .96	1 Mr 18 .02
	7 O 21 .37		<b>Kshaya</b>				6 F 16 .49	
3 S 11 .20	4 O 10 .74	6 N 9 .27	7 D 8 .80	47	2 Jr 7 .32		3 F 5 .86	5 Mr 7 .39
7 Au 31 .55	2 S 30 .10	3 O 29 .63	5 N 28 .16	48	6 D 27 .69	48	1 Jr 26 .22	2 F 24 .76
6 S 18 .47	1 O 18 .00	2 N 16 .53	4 D 16 .06	49	5 Jr 14 .59		7 F 13 .12	1 Mr 14 .65
3 S 7 .80	5 O 7 .37	6 N 5 .90	1 D 5 .43	50	2 Jr 3 .96		4 F 2 .49	6 Mr 4 .02



## Arya Siddhanta.

+ 147.65293	+ 177.18353	+ 206.71411	+ 236.24470
+ 9.880	+ 11.856	+ 13.832	+ 15.808

$$+ 265.77422$$
$$+ 17.784$$

+ 295.30588  
+ 19.760

$$\begin{array}{r} \{ + 324.83647 \\ \{ + 354.36765 \\ \{ + 21.736 \\ \{ + 23.712 \end{array}$$

Asvina				Kartika				Margasira				Pausha				A.D.	Magha				A.D.	Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		
1 Au	28	20	2 S	26	73	4 O	26	26	5 N	24	80					7 D	24	33	51	1 Jr	22	86	3 F	21	30				
7 S	16	14	1 O	15	63	3 N	14	16	4 D	13	69	52	6 Jr	12	22		6 Jr	12	22		7 F	10	75	2 Mr	11	28			
4 S	4	47	6 O	40	00	7 N	2	53	2 D	2	06					3 D	31	59	53	5 Jr	30	12	6 F	28	65				
1 Au	24	84	3 S	23	37	4 O	22	90	6 N	21	43	55	7 D	20	96	54	7 D	20	96		2 Jr	19	49	4 F	18	02			
7 S	12	73	2 O	12	26	3 N	10	79	5 D	10	32		6 Jr	8	86		6 Jr	8	86		1 F	7	39	2 Mr	8	92			
5 S	2	10	6 O	1	63	1 O	31	16	2 N	29	69	57	4 D	29	22	56	4 D	29	22		5 Jr	27	75	7 F	26	28			
4 S	20	00	5 O	19	53	7 N	18	06	1 D	17	59		3 Jr	16	12		3 Jr	16	12		4 F	14	65	6 Mr	16	18			
1 S	9	36	2 O	8	90	4 N	7	43	5 D	6	96	58	7 Jr	5	49		7 Jr	5	49		2 F	4	02	3 Mr	5	55			
5 Au	29	73	7 S	28	25	1 O	27	79	3 N	26	32		4 D	25	85	59	4 D	25	85		6 Jr	24	38	7 F	22	92			
4 S	17	63	6 O	17	15	7 N	15	69	2 D	15	22	60	3 Jr	13	75		3 Jr	13	75		5 F	12	28	6 Mr	12	81			
2 S	6	00	3 O	5	53	5 N	4	06	6 D	3	59	61	1 Jr	2	12		1 Jr	2	12		2 Jr	31	65	4 Mr	2	18			
6 Au	26	36	7 S	24	89	2 O	24	42	3 N	22	96	63	5 D	22	49	62	5 D	22	49		7 Jr	21	02	4 F	19	55			
5 S	14	26	6 O	12	79	1 N	12	32	2 D	11	85		4 Jr	10	38		4 Jr	10	38		5 F	8	91	7 Mr	10	44			
2 S	3	63	4 O	3	16	5 N	1	69	7 D	1	22		1 D	30	75	64	1 D	30	75		3 Jr	29	28	4 F	27	81			
6 Au	22	99	3 O	21	05	5 N	19	58	Pausha Kshaya				6 D	19	12	65	6 D	19	12		7 Jr	17	65	3 Mr	17	71			
1 S	21	52							3 D	8	48	66	5 Jr	7	01		5 Jr	7	01		2 F	16	18	1 Mr	7	07			
5 S	10	89	7 O	10	42	1 N	8	95	7 N	27	85	68	2 D	27	38	67	2 D	27	38		4 Jr	25	91	5 F	24	44			
3 Au	31	26	4 S	29	79	6 O	29	32	6 D	16	75		1 Jr	15	28		1 Jr	15	28		2 F	13	81	4 Mr	14	34			
2 S	19	16	3 O	18	69	5 N	17	22				69	5 Jr	3	64		5 Jr	3	64		7 F	2	18	1 Mr	3	18			
6 S	7	20	1 O	7	05	2 N	5	59	4 D	5	12	71	3 D	24	01	70	3 D	24	01		4 Jr	22	54	6 F	21	07			
3 Au	27	89	5 S	26	42	6 O	25	95	1 N	24	48		1 Jr	11	91		1 Jr	11	91		3 F	10							

### TABLE X—

[illegible]

**N.B.**— For Surya Siddhanta figures for **A.D. 500** to **A.D. 999** see pages **76—79** below.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.											
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
	11	39	44			89	27	16	8	58	0
Sum - 18 gh. 15 p.											
	-	18	15			(☉'s Yoga Eqn.) +			1	25	
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE X-

Kaliyuga Vikrama Era Saka Era	Month and day A.D. Fraction of day	Com- mence- ment of Solar Year.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	Vaisakha				Jyeshtha				Ashada				Sravana				Bhadrapada			
						Week-day of 1st January.				Week-day of 1st January.				Week-day of 1st January.				Week-day of 1st January.				Week-day of 1st January.			
						Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
3728 684 549	20M	1213	2-46154	25-861	627	5	1 Mr	22	68	3 Ap	21	21	6 Je	19	27	7 JI	18	80	2 Au	17	33				
3729 685 550	19M	4722	21-10057	23-985	628	6	7 Ap	9	57	2 My	9	10	3 Je	7	63	5 JI	7	17	6 Au	5	70				
3730 686 551	19M	7309	10-20899	20-153	629	1	4 Mr	29	94	6 Ap	28	47	1 My	28	00	2 Je	26	53	4 JI	26	06				
3731 687 552	19M	9896	28-84802	18-286	630	2	3 Ap	17	84	5 My	17	37	6 Je	15	90	1 JI	15	43	2 Au	13	96				
3732 688 553	20M	2483	17-95646	14-444	631	3	1 Ap	7	21	2 My	6	74	4 Je	5	27	5 JI	4	80	7 Au	3	33				
3733 689 554	19M	5069	7-06489	10-602	632	4	5 Mr	26	56	7 Ap	25	10	1 My	24	63	3 Je	23	16	6 Au	21	23				
3734 690 555	19M	7656	25-70392	8-735	633	6	4 Ap	14	47	6 My	14	00	7 Je	12	53	2 JI	12	06	3 Au	10	59				
3735 691 556	20M	0243	14-81236	4-893	634	7	1 Ap	3	84	3 My	3	37	4 Je	10	90	6 JI	1	43	7 JI	30	96				
3736 692 557	20M	2830	3-92078	1-051	635	1	6 Mr	24	20	7 Ap	22	73	2 My	22	27	5 JI	20	33	6 Au	18	86				
3737 693 558	19M	5417	22-55981	26-739	636	2	5 Ap	11	10	6 My	10	63	1 Je	9	16	2 JI	8	69	4 Au	7	22				
3738 694 559	19M	8003	11-66825	22-897	637	4	2 Mr	31	47	4 Ap	30	00	5 My	29	53	7 Je	28	07	1 JI	27	59				
3739 695 560	20M	0590	0-77698	19-055	638	5	6 Mr	20	84	2 My	18	90	4 Je	17	43	5 JI	16	96	7 Au	15	49				
3740 696 561	20M	3177	19-41570	17-188	639	6	5 Ap	8	73	7 My	8	26	1 Je	6	79	3 JI	6	33	4 Au	4	86				
3741 697 562	19M	5764	8-52414	13-346	640	7	3 Mr	28	10	4 Ap	26	63	6 My	26	16	7 Je	24	69	2 JI	24	22				
3742 698 563	19M	8351	27-16316	11-480	641	2	2 Ap	16	00	3 My	15	53	5 Je	14	06	6 JI	13	59	1 Au	12	12				
3743 699 564	20M	0937	16-27160	7-688	642	3	6 Ap	5	37	7 My	4	90	2 Je	3	43	3 JI	2	96	5 Au	1	49				
3744 700 565	20M	3524	5-38004	3-795	643	4	3 Mr	25	73	5 Ap	24	26	6 My	23	79	2 JI	21	85	4 Au	20	39				
3745 701 566	19M	6111	24-01906	1-929	644	5	2 Ap	12	63	4 My	12	16	5 Je	10	69	7 JI	10	22	1 Au	8	75				
3746 702 567	19M	8698	13-12749	25-641	645	7	7 Ap	2	00	1 My	1	53	3 My	31	06	4 Je	29	59	6 JI	29	12				
3747 703 568	20M	1285	2-23593	21-799	646	1	4 Mr	22	36	5 Ap	20	89	1 Je	18	96	3 JI	18	41	5 Au	17	02				
3748 704 569	20M	3871	20-87495	19-933	647	2	3 Ap	10	26	4 My	9	79	6 Je	8	32	7 JI	7	85	2 Au	6	39				
3749 705 570	19M	6458	9-98339	16-091	648	3	7 Mr	29	63	2 Ap	28	16	3 My	27	69	5 Je	26	22	6 JI	25	75				
3750 706 571	19M	9045	28-62242	14-214	649	5	6 Ap	17	53	1 My	17	06	2 Je	15	59	4 JI	15	12	5 Au	13	65				
3751 707 572	20M	1632	17-73084	10-383	650	6	3 Ap	6	89	5 My	6	42	6 Je	4	95	1 JI	4	49	3 Au	3	02				
3752 708 572	20M	4219	6-83928	6-540	651	7	1 Mr	27	26	2 Ap	25	79	4 My	25	32	5 Je	23	85	1 Au	21	91				
3753 709 574	19M	6805	25-47831	4-604	652	1	7 Ap	14	16	1 My	13	69	3 Je	12	22	4 JI	11	75	6 Au	10	28				
3754 710 575	19M	9392	14-58674	0-831	653	3	4 Ap	3	53	6 My	3	06	7 Je	1	59	2 JI	1	12	3 JI	30	65				
3755 711 576	20M	1979	3-69518	24-544	654	4	1 Mr	23	89	3 Ap	22	42	4 My	21	95	1 JI	20	01	2 Au	18	55				
3756 712 577	20M	4566	22-33420	22-677	655	5	7 Ap	11	79	2 My	11	32	3 Je	9	85	5 JI	9	88	4 Au	7	91				
3757 713 578	19M	7153	11-44264	18-835	656	6	5 Mr	31	16	6 Ap	29	69	1 My	29	22	2 Je	27	75	4 JI	27	28				
3758 714 579	19M	9738	0-55107	14-993	657	1	2 Mr	20	52	5 My	18	59	7 Je	17	12	1 JI	16	65	3 Au	15	18				
3759 715 580	20M	2325	19-19003	13-127	658	2	1 Ap	8	42	2 My	7	95	4 Je	6	48	6 JI	6	01	7 Au	4	54				
3760 716 581	20M	4913	8-29914	9-285	659	3	5 Mr	28	79	7 Ap	27	32	1 My	26	85	3 Je	25	38	4 JI	24	91				
3761 717 582	19M	7500	26-93756	7-418	660	4	4 Ap	15	69	6 My	15	22	7 Je	13	75	2 JI	13	28	3 Au	11	81				
3762 718 583	20M	0087	16-04600	3-576	661	6	2 Ap	5	05	3 My	4	58	5 Je	3	11	6 JI	2	65	1 Au	1	18				
3763 719 584	20M	2673	5-15443	27-288	662	7	6 Mr	25	42	7 Ap	23	95	2 My	23	48	5 JI	21	54	7 Au	20	07				
3764 720 585	20M	5260	23-79345	25-422	663	1	5 Ap	13	32	6 My	12	85	1 Je	11	38	2 JI	10	91	4 Au	9	44				
3765 721 586	19M	7847	12-90189	21-580	664	2	2 Ap	1	69	4 My	1	22	5 My	30	75	7 Je	29	28	1 JI	28	81				
3766 722 587	20M	0434	2-01033	17-737	665	4	7 Mr	22	05	1 Ap	20	58	4 Je	18	64	6 JI	18	17	7 Au	16	71				

N.B.—For Surya Siddhanta figures for A.D. 500 to A.D. 999 see pages 76—79 below.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.			
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.







## Arya Siddhanta.

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	+ 324-82647
+ 9-880	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760	+ 354-36705
						+ 21-736
						+ 23-712

Asvina				Kartika				Margasira				Pausha				A.D.	Magha				A.D.	Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
2 S	23	26		3 O	22	79		5 N	21	32		6 D	20	85		44	1 Jr	19	38			2 F	17	91		4 Mr	18	44	
6 S	11	63		1 O	11	16		2 N	9	69		4 D	9	22		45	5 Jr	7	75			7 F	6	28		1 Mr	7	81	
3 Au	31	99		5 S	30	52		7 O	30	05		1 N	28	59		46	3 D	28	12			4 Jr	26	65		6 F	25	18	
2 S	19	89		4 O	19	42		5 N	17	95		7 D	17	48		47	2 Jr	16	01			3 F	14	11		5 Mr	16	07	
7 S	9	26		1 O	8	79		3 N	7	32		4 D	6	85		48	6 Jr	5	38			7 F	3	93		2 Mr	4	44	
4 Au	28	63		6 S	27	16		7 O	26	69		2 N	25	22		50	3 D	24	75			5 Jr	23	28		6 F	21	81	
3 S	16	52		5 O	16	05		6 N	14	58		1 D	14	11		51	2 Jr	12	62			4 F	11	18		5 Mr	12	71	
7 S	5	89		2 O	5	42		3 N	3	96		5 D	3	48		51	7 Jr	2	01			1 Jr	31	54		3 Mr	2	07	
5 Au	26	26		6 S	24	79		Margasira Kshaya				2 N	22	85		52	4 D	22	98			5 Jr	20	91		7 F	19	44	
1 S	13	15		5 O	12	69		7 N	11	22		1 D	10	75		53	3 Jr	9	28			4 F	7	81		6 Mr	9	34	
1 S	2	52		3 O	2	05		4 O	31	58		6 N	30	11		55	7 D	29	64			2 Jr	28	17		3 F	26	71	
7 S	21	42		1 O	20	95		3 N	19	48		5 D	19	01		55	6 Jr	17	54			1 F	16	07		2 Mr	17	60	
4 S	10	79		6 O	10	32		7 N	8	85		2 D	8	38		56	3 Jr	6	91			5 F	5	44		6 Mr	5	87	
2 Au	30	15		3 S	28	68		5 O	28	21		6 N	26	75		58	1 D	26	28			2 Jr	24	81		4 F	23	34	
1 S	18	05		2 O	17	58		4 N	16	11		5 D	15	64		58	7 Jr	14	17			1 F	12	70		3 Mr	14	73	
5 S	7	42		6 O	6	95		1 N	5	48		3 D	5	01		59	4 Jr	3	54			6 F	2	07		7 Mr	3	60	
2 Au	27	79		4 S	26	32		5 O	25	85		7 N	24	38		61	1 D	23	91			3 Jr	22	44		4 F	20	97	
1 S	14	68		3 O	14	21		4 N	12	74		6 D	12	27		61	7 Jr	10	81			2 F	9	34		3 Mr	10	87	
6 S	4	05		7 O	3	58		2 N	2	11		3 D	1	64		63	5 D	31	18			6 Jr	29	71		1 F	28	24	
4 S	22	95		6 O	22	48		1 N	21	01		2 D	20	54		63	4 Jr	19	07			5 F	17	60		7 Mr	19	13	
2 S	12	32		3 O	11	85		5 N	10	38		6 D	9	91		64	1 Jr	8	44			2 F	6	97		4 Mr	7	50	
6 Au	31	69		1 S	30	22		2 O	29	75		4 N	28	23		65	5 D	27	81			7 Jr	26	34		1 F	24	87	
5 S	19	58		7 O	19	11		1 N	17	64		3 D	17	17		66	4 Jr	15	71			6 F	14	24		7 Mr	15	77	
2 S	8	95		4 O	8	48		6 N	7	01		7 D	6	54		67	2 Jr	5	07			3 F	3	60		5 Mr	5	13	
7 Au	29	32		1 S	27	85		3 O	27	38		4 N	25	91		69	6 D	25	44			7 Jr	23	97		2 F	22	50	
6 S	16	25		7 O	15	75		2 N	14	28		3 D	13	81		69	5 Jr	12	34			6 F	10	87		1 Mr	12	40	
3 S	5	58		5 O	5	11		6 N	3	64		1 D	3	17		70	2 Jr	1	70			4 Jr	31	23		5 Mr	1	77	
7 Au	25	95		4 O	24	01		5 N	22	54		Pausha Kshaya				71	7 D	22	07			1 Jr	20	60		3 F	19	13	
2 S	24	48		1 O	13	38		2 N	11	91		4 D	11	44		72	5 Jr	9	97			7 F	8	50		4 Mr	20	66	
6 S	13	85		5 O	1	74		6 O	31	27		1 N	29	81		73	3 D	29	34			4 Jr	27	87		6 F	26	40	
4 S	2	21		5 O	20	64		9 N	19	17		7 D	18	70		74	2 Jr	17	23			3 F	15	76		5 Mr	17	29	
7 S	10	49		2 O	10	01		3 N	8	54		5 D	8	07		75	6 Jr	6	60			1 F	5	13		2 Mr	6	66	
4 Au	30	85		6 S	29	38		7 O	28	91		2 N	27	44		77	3 D	26	97			5 Jr	25	50		7 F	24	03	
3 S	17	74		5 O	17	27		6 N	15	80		1 D	15	33		77	2 Jr	13	87			4 F	12	40		5 Mr	13	93	
1 S	7	11		2 O	6	64		4 N	5	17		5 D	4	70		78	7 Jr	3	23			1 F	1	76		3 Mr	3	29	
5 Au	27	48		7 S	26	01		1 O	25	54		3 N	24	07		80	4 D	23	60			6 Jr	22	13		7 F	20	66	
4 S	15	37		5 O	14	91		7 N	13	44		1 D	12	97		80	3 Jr	11	50			5 F	10	03		6 Mr	10	56	
1 S	3	74		3 O	3	27		4 N	1	80		6 D	1	33		82	7 D	30	86			2 Jr	29	39		3 F	27	92	
7 S	22	64		2 O	22	17		3 N	20	70		5 D	20	23		82	6 Jr	18	76			1 F	17	29		2 Mr	18	82	
5 S	12	01		6 O	11	54		1 N	10	07		2 D	9	60		83	4 Jr	8	13			5 F	6	66		7 Mr	8	19	

### TABLE X-

[illegible]

**N.B.**—For Surya Siddhanta figures for **A.D. 500** to **A.D. 999** see pages **76—79** below.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE X—**

Kaliyuga.	Vikrama Era.	Saka Era.	Com- mence- ment of Solar Year.	Month and day A.D. Fraction of day.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	Week-day of 1st January.	Yaisakha	Jyeshta	Ashada	Sravana	Bhadrapada				
									Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction				
8923	879 744	21M	6562	4-81881	25-103	822	4	4 Mr 26	47	6 Ap 25	00	7 My 24	53	3 Jl 22	59	5 Au 21	12
8924	880 745	21M	9149	23-44782	23-227	823	5	3 Ap 14	36	4 My 13	89	2 Je 23	06	7 Jl 11	96	2 Au 10	49
8925	881 746	21M	1736	12-55626	19-385	824	6	7 Ap 2	73	2 My 2	26	6 Je 12	43	5 Je 30	32	6 Jl 29	85
8926	882 747	21M	4323	1-66470	15-543	825	1	5 Mr 23	10	6 Ap 21	63	2 Je 19	69	4 Jl 19	22	5 Au 17	75
8927	883 748	21M	6910	20-30372	13-676	826	2	4 Ap 11	00	1 My 21	16	7 Je 9	06	1 Jl 8	59	3 Au 7	12
8928	884 749	21M	9496	9-41246	9-834	827	3	1 Mr 31	36	5 My 10	53	4 My 29	42	5 Je 27	95	7 Jl 27	49
8929	885 750	21M	2083	28-05119	7-968	828	4	7 Ap 18	26	1 My 17	79	3 Je 16	32	4 Jl 15	85	6 Au 14	38
8930	886 751	21M	4670	17-15961	4-126	829	6	4 Ap 7	63	6 My 7	16	7 Je 5	69	2 Jl 5	22	3 Au 3	75
8931	887 752	21M	7257	6-26805	0-283	830	7	1 Mr 27	99	3 Ap 26	53	5 My 26	06	6 Je 24	59	2 Au 22	65
8932	888 753	21M	9844	24-90708	25-971	831	1	7 Ap 15	89	2 My 15	42	3 Je 13	95	5 Jl 13	48	7 Au 12	01
8933	889 754	21M	2431	14-01551	22-129	832	2	5 Ap 4	26	6 My 3	79	1 Je 2	32	2 Jl 1	85	4 Jl 31	38
8934	890 755	21M	5017	3-12395	18-287	833	4	2 Mr 24	63	4 Ap 23	16	5 My 22	69	1 Jl 20	75	3 Au 19	28
8935	891 756	21M	7604	21-76298	16-421	834	5	1 Ap 12	52	3 My 12	05	4 Je 10	59	6 Jl 10	12	7 Au 8	65
8936	892 757	22M	0191	10-87140	12-579	835	6	5 Ap 1	89	7 My 1	42	2 My 30	95	3 Je 29	48	5 Jl 29	01
8937	893 758	21M	2778	29-51043	8-736	836	7	4 Ap 19	79	6 My 19	32	7 Je 17	85	2 Jl 17	38	3 Au 15	91
8938	894 759	21M	5365	18-61887	6-870	837	2	2 Ap 9	16	3 My 8	69	5 Je 7	22	6 Jl 6	75	1 Au 5	28
8939	895 760	21M	7951	7-72760	3-028	838	3	6 Mr 29	52	1 Ap 28	05	2 My 27	58	4 Je 26	11	7 Au 24	18
8940	896 761	22M	0538	26-36632	1-161	839	4	5 Ap 17	42	6 My 16	95	1 Je 15	48	3 Jl 15	01	4 Au 13	54
8941	897 732	21M	3125	15-47476	24-874	840	5	2 Ap 5	79	4 My 5	32	5 Je 3	85	7 Jl 3	38	1 Au 1	91
8942	898 763	21M	5712	4-58319	21-032	841	7	7 Mr 26	15	1 Ap 24	69	3 My 24	22	6 Jl 22	28	7 Au 20	81
8943	899 764	21M	8299	23-22222	19-176	842	2	6 Ap 14	05	7 My 13	58	2 Je 12	11	3 Jl 11	64	5 Au 10	17
8944	900 765	22M	0885	12-33066	15-323	843	1	3 Ap 3	42	4 My 2	95	6 Je 1	48	1 Jl 1	01	2 Jl 30	54
8945	901 766	21M	3472	1-43909	11-481	844	3	7 Mr 22	79	2 Ap 21	32	5 Je 19	38	6 Jl 18	91	1 Au 17	44
8946																	

**N.B.**—For Surya Siddhanta figures for **A.D. 500** to **A.D. 999** see pages **76—79** below.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



## Arya Siddhanta.

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 + 9·880    + 11·856    + 13·832    + 15·808

+ 265·77529  
 + 17·784

+ 295·30588    + 324·83647  
 + 19·760    + 354·36705  
 + 21·736  
 + 23·712

Aavina				Kartika				Margasira				Pausha				A.D.	Magha				A.D.	Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
2 S	16	·42		3 O	15	·95		5 N	14	·48		7 D	14	·01		40	1 Jr	12	·54			3 F	11	·07		4 Mr	11	·60	
6 S	4	·78		1 O	4	·31		2 N	2	·84		4 D	20	·38		42	5 D	31	·91	41		7 Jr	30	·44		1 F	28	·97	
5 S	23	·68		7 O	23	·21		1 N	21	·74		3 D	21	·27			4 Jr	19	·80			6 F	18	·33		7 Mr	19	·86	
8 S	13	·05		4 O	12	·58		6 N	11	·11		7 D	10	·64		43	2 Jr	9	·17			3 F	7	·70		5 Mr	9	·23	
7 S	2	·42		1 O	10	·95		3 O	31	·48		5 N	30	·01		45	6 D	29	·54	44		1 Jr	28	·07		2 F	26	·60	
6 S	20	·31		7 O	19	·84		2 N	18	·37		3 D	17	·90			5 Jr	16	·44			6 F	14	·96		1 Mr	16	·50	
3 S	9	·68		5 O	9	·21		6 N	7	·74		1 D	7	·27		46	2 Jr	5	·80			4 F	4	·33		5 Mr	5	·86	
1 Au	30	·05		2 S	28	·58		4 O	28	·11		5 N	26	·64		48	7 D	26	·17	47		1 Jr	24	·70		3 F	23	·23	
6 S	17	·94		1 O	17	·48		3 N	16	·01		4 D	15	·54			6 Jr	14	·07			7 F	12	·60		2 Mr	13	·13	
4 S	6	·31		5 O	5	·84		7 N	4	·37		1 D	3	·90		49	3 Jr	20	·43			4 Jr	31	·96		6 Mr	2	·50	
1 Au	26	·68		4 O	24	·74		6 N	23	·27		7 D	22	·80		50	2 Jr	21	·33			3 F	19	·86		5 Mr	21	·39	
3 S	25	·21														51	6 Jr	10	·70			1 F	9	·23		2 Mr	10	·76	
7 S	14	·58		2 O	14	·11		3 N	12	·64		8 D	12	·17			4 D	31	·07	52		5 Jr	29	·60		7 F	28	·13	
4 S	3	·94		6 O	3	·47		1 N	20	·00		2 D	1	·54		53	2 Jr	17	·96			4 F	16	·49		6 Mr	18	·02	
3 S	21	·84		5 O	21	·37		6 N	19	·90		1 D	19	·43		54	7 Jr	7	·33			1 F	5	·86		3 Mr	7	·39	
1 S	11	·21		2 O	10	·74		4 N	9	·27		5 D	8	·80		56	4 D	27	·70	55		6 Jr	26	·23		7 F	24	·76	
5 Au	31	·58		7 S	30	·11		1 O	29	·64		3 N	28	·17			3 Jr	15	·60			5 F	14	·13		6 Mr	14	·06	
4 S	19	·47		6 O	19	·00		7 N	17	·53		2 D	17	·06		57	7 Jr	30	·96			2 F	2	·49		4 Mr	4	·02	
1 S	7	·84		3 O	7	·37		4 N	5	·90		6 D	5	·43		59	5 D	24	·33	58		1 F	22	·86		1 F	21	·39	
6 Au	28	·21		7 S	26	·74		2 O	26	·27		3 N	24	·80			4 Jr	12	·23			5 F	10	·76		7 Mr	12	·29	
5 S	16	·10		6 O	15	·64		1 N	14	·17		2 D	13	·70		60	1 Jr	1	·59			3 Jr	31	·12		4 F	29	·66	
2 S	5	·47		4 O	5	·00		5 N	3	·53		7 D	3	·06		61	7 Jr	19	·49			2 F	18	·02		3 Mr	19	·55	
1 S	23	·37		2 O	22	·90		4 N	21	·43		5 D	20	·96		62	4 Jr	8	·86			6 F	7	·39		7 Mr	8	·92	
5 S	12	·74		7 O	12	·27		1 N	10	·80		3 D	10	·33		64	2 D	29	·23	63		3 Jr	27	·76		5 F	26	·29	
3 S	2	·10		4 O	10	·63		6 O	31	·16		7 N	29	·70			1 Jr	17	·12			2 F	15	·65		4 Mr	16	·18	
2 S	21	·00		3 O	20	·53		5 N	19	·06		6 D	18	·59		65	5 Jr	5	·49			7 F	4	·02		1 Mr	5	·55	
6 S	9	·37		7 O	8	·90		2 N	7	·43		3 D	6	·96		67	2 D	25	·86	66		4 Jr	24	·39		6 F	22	·92	
3 Au	29	·74		5 S	28	·27		6 O	27	·80		1 N	26	·33			1 Jr	13	·76			3 F	12	·29		4 Mr	13	·82	
2 S	17	·83		4 O	17	·16		5 N	15	·69		7 D	15	·22		68	6 Jr	3	·12			7 F	1	·65		2 Mr	2	·18	
7 S	7	·00		1 O	6	·53		3 N	5	·06		4 D	4	·59		69	5 Jr	21	·02			6 F	19	·55		1 Mr	21	·08	
4 Au	26	·97		7 O	24	·43		1 N	22	·96		3 D	22	·49		70	2 Jr	10	·39			3 F	8	·92		5 Mr	10	·45	
5 S	24	·90														72	6 D	30	·75	71		1 Jr	29	·28		2 F	27	·82	
3 S	14	·26		4 O	13	·80		6 N	12	·33		7 D	11	·87			5 Jr	18	·65			7 F	17	·18		1 Mr	17	·71	
7 S	3	·63		2 O	3	·16		3 N	1	·69		5 D	1	·22		73	3 Jr	7	·02			4 F	5	·55		6 Mr	7	·08	
6 S	22	·53		1 O	22	·06		2 N	20	·56		4 D	20	·12		75	7 D	27	·39	74		1 Jr	25	·92		3 F	24	·45	
3 S	10	·90		5 O	10	·43		7 N	8	·96		1 D	8	·49			6 Jr	15	·28			7 F	13	·81		2 Mr	15	·34	
1 Au	31	·26		2 S	29	·79		4 O	29	·32		5 N	27	·86		76	7 D	27	·39			1 Jr	25	·92		3 F	24	·45	
7 S	19	·16		1 O	18	·69		3 N	17	·22		4 D	16	·75			3 Jr	7	·02			5 F	3	·18		6 Mr	3	·71	
4 S	8	·53		6 O	8	·06		7 N	6	·59		2 D	6	·12		77	1 D	24	·02			2 Jr	22	·55		4 F	21	·08	
1 Au	27	·90		3 S	26	·43		4 O	25	·96		6 N	24	·49												5 Mr	22	·61	

TABLE X—

Kaliyuga.	Vikrama Era.	Saka Era.	Month and day A. D.	Fraction of day.	Com- mence- ment of Solar Year.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A. D.	Week-day of 1st January.	☉'s Anom col. 6 + 29-53059 + 59-06117 + 88-59176 + 118-12235					☾'s Anom col. 7 + 1-976 + 3-952 + 5-928 + 7-904				
										Vaisakha	Jyeshtha	Ashada	Sravana	Bhadrapada					
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
4078	1034	899	22M	·7517	29-39043	12-580	<b>977</b>	2	7 Ap 21	·14	1 My 20	·67	3 Je 19	·20	4 Jl 18	·73	6 Au 17	·26	
4079	1035	900	23M	·0104	18-49886	8-737	<b>978</b>	3	4 Ap 10	·51	6 My 10	·04	7 Je 8	·57	2 Jl 8	·10	3 Au 6	·63	
4080	1036	901	23M	·2691	7-60730	4-895	<b>979</b>	4	1 Mr 30	·87	3 Ap 29	·40	4 My 28	·94	6 Je 27	·47	2 Au 25	·53	
4081	1037	902	22M	·5278	26-24633	3-029	<b>980</b>	5	7 Ap 17	·77	2 My 17	·30	3 Je 15	·83	5 Jl 15	·36	6 Au 13	·89	
4082	1038	903	22M	·7864	15-35476	26-741	<b>981</b>	7	5 Ap 7	·14	6 My 6	·67	1 Je 5	·20	2 Jl 4	·73	4 Au 3	·26	
4083	1039	904	23M	·0451	4-46319	22-899	<b>982</b>	1	2 Mr 27	·51	4 Ap 26	·04	5 My 25	·57	1 Jl 23	·63	3 Au 22	·16	
4084	1040	905	23M	·3038	23-10222	21-033	<b>983</b>	2	1 Ap 15	·40	2 My 14	·93	4 Je 13	·46	6 Jl 13	·00	7 Au 11	·53	
4085	1041	906	22M	·5625	12-21065	17-190	<b>984</b>	3	5 Ap 3	·77	7 My 3	·30	1 Je 1	·83	3 Jl 1	·36	4 Jl 30	·89	
4086	1042	907	22M	·8212	1-31909	13-348	<b>985</b>	5	3 Mr 24	·14	4 Ap 22	·69	7 Je 20	·73	2 Jl 20	·26	3 Au 18	·79	
4087	1043	908	23M	·0799	19-95812	11-482	<b>986</b>	6	2 Ap 12	·03	3 My 11	·58	5 Je 10	·10	6 Jl 9	·63	1 Au 8	·16	
4088	1044	909	23M	·3385	9-06654	7-640	<b>987</b>	7	6 Ap 1	·40	7 Ap 30	·93	2 My 30	·46	3 Je 28	·99	5 Jl 28	·52	
4089	1045	910	22M	·5972	27-70557	5-773	<b>988</b>	1	5 Ap 19	·30	6 My 18	·83	1 Je 17	·36	2 Jl 16	·89	4 Au 15	·42	
4090	1046	911	22M	·8559	16-81401	1-931	<b>989</b>	3	2 Ap 8	·67	4 My 8	·20	5 Je 6	·73	7 Jl 6	·26	1 Au 4	·79	
4091	1047	912	23M	·1146	5-92244	25-643	<b>990</b>	4	7 Mr 29	·03	1 Ap 27	·56	3 My 27	·09	4 Je 25	·62	7 Au 23	·69	
4092	1048	913	23M	·3733	24-56147	23-777	<b>991</b>	5	5 Ap 16	·93	7 My 16	·46	1 Je 14	·99	3 Jl 14	·52	5 Au 13	·05	
4093	1049	914	22M	·6319	13-66991	19-935	<b>992</b>	6	3 Ap 5	·30	4 My 4	·83	6 Je 3	·36	7 Jl 2	·89	2 Au 1	·42	
4094	1050	915	22M	·8906	2-77833	16-093	<b>993</b>	1	7 Mr 25	·66	2 Ap 24	·20	5 Je 22	·26	6 Jl 21	·79	1 Au 20	·32	
4095	1051	916	23M	·1493	21-41764	14-227	<b>994</b>	2	6 Ap 13	·56	1 My 13	·10	1 Je 11	·62	4 Jl 11	·15	5 Au 9	·68	
4096	1052	917	23M	·4080	10-52511	10-385	<b>995</b>	3	3 Ap 2	·93	5 My 2	·46	6 My 31	·99	1 Je 30	·52	3 Jl 30	·05	
4097	1053	918	22M	·6667	29-16482	8-518	<b>996</b>	4	2 Ap 20	·83	4 My 20	·36	5 Je 18	·89	7 Jl 18	·42	1 Au 16	·95	
4098	1054	919	22M	·9253	18-27326	4-676	<b>997</b>	6	7 Ap 10	·19	1 My 9	·72	3 Je 8	·26	4 Jl 7	·79	6 Au 6	·32	
4099	1055	920	23M	·1840	7-38169	0-833	<b>998</b>	7	4 Mr 30	·56	6 Ap 29	·09	7 My 28	·62	2 Je 27	·15	5 Au 25	·21	
4100	1056	921	23M	·4427	26-02072	26-522	<b>999</b>	1	3 Ap 18	·46	4 My 17	·99	6 Je 16	·52	1 Jl 16	·05	2 Au 14	·58	

N.B.—For Surya Siddhanta figures for A.D. 500 to A.D. 999 see pages 76—79 below.



## Arya Siddhanta.

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	{ + 324-83647 + 354-36705 + 21-736 + 23-712		
+ 9-890	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760			
Asvina	Kartika	Margasira	Pausha	A.D.	Magha	A.D.	Phalguna	Chaitra
Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction
7 S 15 .79	2 O 15 .32	3 N 13 .85	5 D 13 .39	78	6 Jr 11 .91		1 F 10 .45	2 Mr 11 .98
5 S 5 .16	6 O 4 .69	1 N 3 .22	2 D 2 .75	79	4 Jr 1 .28		5 Jr 30 .81	7 Mr 1 .34
4 S 24 .06	5 O 23 .59	7 N 22 .12	1 D 21 .65	80	3 Jr 20 .18		4 F 18 .71	6 Mr 19 .24
1 S 12 .42	2 O 11 .96	4 N 10 .49	6 D 10 .02	81	7 Jr 8 .55		2 F 7 .08	3 Mr 8 .61
5 S 1 .79	7 O 1 .32	1 O 30 .85	3 N 29 .38		4 D 28 .91	82	6 Jr 27 .44	7 F 25 .98
4 S 20 .69	6 O 20 .22	7 N 18 .75	2 D 18 .28	83	3 Jr 16 .81		5 F 15 .34	6 Mr 16 .87
2 S 10 .06	3 O 9 .59	5 N 8 .12	6 D 7 .65	84	1 Jr 6 .18		2 F 4 .71	4 Mr 5 .24
6 Au 29 .42	7 S 27 .95	2 O 27 .48	4 N 26 .02		5 D 25 .55	85	7 Jr 24 .08	1 F 22 .61
5 S 17 .32	6 O 16 .85	1 N 15 .38	2 D 14 .91	86	4 Jr 13 .44		5 F 11 .97	7 Mr 13 .50
2 S 6 .69	4 O 6 .22	5 N 4 .75	7 D 4 .28	87	1 Jr 2 .81		3 F 1 .34	4 Mr 2 .87
7 Au 27 .05	3 O 25 .12	4 N 23 .65	6 D 23 .18	88	7 Jr 21 .71		2 F 20 .24	3 Mr 20 .77
1 S 25 .58								
5 S 13 .96	7 O 13 .48	2 N 12 .01	3 D 11 .54	89	5 Jr 10 .07		6 F 8 .60	1 Mr 10 .14
3 S 3 .32	4 O 2 .84	6 N 1 .31	7 N 30 .91		2 D 30 .44	90	3 Jr 28 .97	5 F 27 .50
2 S 22 .22	3 O 21 .75	5 N 20 .28	6 D 19 .81	91	1 Jr 18 .34		2 F 16 .87	4 Mr 18 .40
6 S 11 .58	1 O 11 .11	2 N 9 .64	4 D 9 .18	92	5 Jr 7 .71		7 F 6 .24	1 Mr 6 .77
3 Au 30 .95	5 S 29 .48	7 O 29 .01	1 N 27 .54		3 D 27 .07	93	4 Jr 25 .60	6 F 24 .13
2 S 18 .85	4 O 18 .38	5 N 16 .91	7 D 16 .44	94	1 Jr 14 .97		3 F 13 .50	5 Mr 15 .03
7 S 8 .22	1 O 7 .75	3 N 6 .28	4 D 5 .81	95	6 Jr 4 .34		5 F 2 .87	2 Mr 4 .40
4 Au 28 .58	6 S 27 .11	7 O 26 .64	2 N 25 .17		3 D 24 .70	96	5 Jr 23 .24	6 F 21 .77
3 S 15 .48	5 O 15 .01	6 N 13 .54	1 D 13 .07	97	2 Jr 11 .60		4 F 10 .13	5 Mr 11 .66
7 S 4 .85	2 O 4 .38	3 N 2 .91	5 D 2 .44		6 D 31 .97	98	1 Jr 30 .50	3 Mr 1 .03
6 S 23 .74	1 O 23 .28	2 N 21 .81	4 D 21 .34	99	5 Jr 19 .87		7 F 18 .40	1 Mr 19 .93
4 S 13 .11	5 O 12 .64	7 N 11 .17	1 D 10 .70	10	3 Jr 9 .23	00	4 F 7 .76	6 Mr 8 .30

## SURYA SIDDHANTA figures

A.D.	Kaliyuga	Week day of 1st January	Commence- ment of Indian Solar Year.	Fraction of day	First New-Moon in Solar Year	Anomaly of first New- Moon	A.D.	Kaliyuga	Week-day of 1st January	Commence- ment of Indian Solar Year.	Fraction of day	First New-Moon in Solar Year	Anomaly of first New- Moon	A.D.	Kaliyuga	Week-day of 1st January	Commence- ment of Indian Solar Year.	Fraction of day
500	3601	7	18M	·3618	27·3063	9·979	550	3651	7	19M	·2991	14·2718	18·737	600	3701	7	19M	·2369
501	3602	1	18M	·6200	16·4146	6·137	551	3652	1	19M	·5579	3·3801	14·894	601	3702	1	19M	·4957
502	3603	2	18M	·8788	5·5229	2·294	552	3653	2	18M	·8166	22·0190	13·028	602	3703	2	19M	·7545
503	3604	4	19M	·1375	24·1618	0·427	553	3654	4	19M	·0754	11·1273	9·185	603	3704	4	20M	·0132
504	3605	5	18M	·3963	13·2701	24·139	554	3655	5	19M	·3341	0·2356	5·343	604	3705	5	19M	·2720
505	3606	6	18M	·6550	2·3784	20·296	555	3656	6	19M	·5929	18·8745	3·476	605	3706	6	19M	·5307
506	3607	7	18M	·9138	21·0173	18·429	556	3657	7	18M	·8516	7·9828	27·188	606	3707	7	19M	·7895
507	3608	2	19M	·1726	10·1256	14·587	557	3658	2	19M	·1104	26·6217	25·321	607	3708	2	20M	·0482
508	3609	3	18M	·4313	28·7644	12·720	558	3659	3	19M	·3692	15·7300	21·478	608	3709	3	19M	·3070
509	3610	4	18M	·6901	17·8727	8·877	559	3660	4	19M	·6279	4·8383	17·635	609	3710	4	19M	·5658
510	3611	5	18M	·9488	6·9810	5·034	560	3661	5	18M	·8867	23·4772	15·769	610	3711	5	19M	·8245
511	3612	7	19M	·2076	25·6199	3·168	561	3662	7	19M	·1454	12·5854	11·926	611	3712	7	20M	·0833
512	3613	1	18M	·4663	14·7282	26·380	562	3663	1	19M	·4042	1·6937	8·083	612	3713	1	19M	·3420
513	3614	2	18M	·7251	3·8365	23·037	563	3664	2	19M	·6629	20·3326	6·216	613	3714	2	19M	·6008
514	3615	3	18M	·9869	22·4754	21·170	564	3665	3	18M	·9217	9·4409	2·374	614	3715	3	19M	·8595
515	3616	5	19M	·2426	11·5837	17·327	565	3666	5	19M	·1805	28·0798	0·507	615	3716	5	20M	·1183
516	3617	6	18M	·5014	0·6920	13·485	566	3667	6	19M	·4392	17·1881	24·219	616	3717	6	19M	·3771
517	3618	7	18M	·7601	19·3309	11·618	567	3668	7	19M	·6980	6·2964	20·376	617	3718	7	19M	·6358
518	3619	2	19M	·0189	8·4392	7·775	568	3669	1	18M	·9567	2·9353	18·509	618	3719	1	19M	·8946
519	3620	3	19M	·2776	27·0781	5·908	569	3670	3	19M	·2155	14·0436	14·666	619	3720	3	20M	·1533
520	3621	4	18M	·5364	16·1864	2·066	570	3671	4	19M	·4742	3·1519	10·824	620	3721	4	19M	·4121
521	3622	5	18M	·7952	5·2947	25·777	571	3672	5	19M	·7330	21·7908	8·957	621	3722	5	19M	·6708
522	3623	7	19M	·0569	23·9336	23·911	572	3673	6	18M	·9918	10·8991	5·114	622	3723	6	19M	·9296
523	3624	1	19M	·3127	13·0419	20·068	573	3674	1	19M	·2505	0·0074	1·271	623	3724	1	20M	·1884
524	3625	2	18M	·5714	2·1502	16·225	574	3675	2	19M	·5093	18·6463	26·959	624	3725	2	19M	·4471
525	3626	3	18M	·8302	20·7891	14·358	575	3676	3	19M	·7680	7·7546	23·117	625	3726	3	19M	·7059
526	3627	5	19M	·0889	9·8974	10·516	576	3677	5	19M	·0268	26·3935	21·250	626	3727	4	19M	·9646
527	3628	6	19M	·3477	28·5362	8·649	577	3678	6	19M	·2855	15·5018	17·407	627	3728	6	20M	·2234
528	3629	7	18M	·6065	17·6445	4·806	578	3679	7	19M	·5443	4·6101	13·564	628	3729	7	19M	·4821
529	3630	1	18M	·8652	6·7528	0·963	579	3680	1	19M	·8031	23·2489	11·698	629	3730	1	19M	·7409
530	3631	3	19M	·1240	25·3917	26·651	580	3681	3	19M	·0618	12·3572	7·855	630	3731	2	19M	·9996
531	3632	4	19M	·3827	14·5000	22·809	581	3682	4	19M	·3206	1·4655	4·013	631	3732	4	20M	·2584
532	3633	5	18M	·6415	3·6083	18·966	582	3683	5	19M	·5793	20·1044	2·145	632	3733	5	19M	·5172
533	3634	6	18M	·9002	22·2472	17·099	583	3684	6	19M	·8381	9·2127	25·857	633	3734	6	19M	·7759
534	3635	1	19M	·1690	11·3555	13·256	584	3685	1	19M	·0958	27·8516	23·990	634	3735	1	20M	·0347
535	3636	2	19M	·4177	0·4638	9·414	585	3686	2	19M	·3556	16·9599	20·148	635	3736	2	20M	·2934
536	3637	3	18M	·6765	19·1027	7·547	586	3687	3	19M	·6143	6·0682	16·305	636	3737	3	19M	·5522
537	3638	4	18M	·9353	8·2110	3·704	587	3688	4	19M	·8731	24·7071	14·438	637	3738	4	19M	·8109
538	3639	6	19M	·1940	26·8499	1·837	588	3689	6	19M	·1319	13·8154	10·595	638	3739	6	20M	·0697
539	3640	7	19M	·4518	15·9582	25·549	589	3690	7	19M	·3906	2·9237	6·753	639	3740	7	20M	·3285
540	3641	1	18M	·7115	5·0665	21·706	590	3691	1	19M	·6494	21·5626	4·886	640	3741	1	19M	·5872
541	3642	2	18M	·9703	23·7054	19·840	591	3692	2	19M	·9081	10·6709	1·043	641	3742	2	19M	·8460
542	3643	4	19M	·2290	12·8137	15·997	592	3693	4	19M	·1669	23·8098	26·731	642	3743	4	20M	·1047
543	3644	5	19M	·4868	1·9220	12·154	593	3694	5	19M	·4256	18·4181	22·888	643	3744	5	20M	·3635
544	3645	6	18M	·7466	20·5608	10·277	594	3695	6	19M	·6844	7·5264	19·045	644	3745	6	19M	·6222
545	3646	1	19M	·0053	9·6691	6·445	595	3696	7	19M	·9432	26·1653	17·179	645	3746	7	19M	·8810
546	3647	2	19M	·2641	28·3080	4·578	596	3697	2	19M	·2019	15·2736	13·336	646	3747	2	20M	·1298
547	3648	3	19M	·5228	17·4163	0·735	597	3698	3	19M	·4607	4·3819	9·493	647	3748	3	20M	·3885
548	3649	4	18M	·7816	6·5246	24·447	598	3699	4	19M	·7194	23·0207	7·627	648	3749	4	19M	·6573
549	3650	6	19M	·0403	25·1635	22·580	599	3700	5	19M	·9782	12·1290	3·784	649	3750	5	19M	·9163

for A.D. 500 to A.D. 999.

First New-Moon in Solar Year	Anomaly of first New-Moon	A.D.	Kaliyuga	Week-day of 1st January	Day	Fraction of day	Commence-ment of Indian Solar Year.	First New-Moon in Solar Year	Anomaly of first New-Moon	A.D.	Kaliyuga	Week-day of 1st January	Day	Fraction of day	Commence-ment of Indian Solar Year.	First New-Moon in Solar Year	Anomaly of first New-Moon
1-2373	27-496	650	3751	7	20M	·1748	17-7334	10-675	700	3801	7	20M	·1126	4-6990	19-433		
19-8762	25-629	651	3752	1	20M	·4335	6-8417	6-838	701	3802	1	20M	·3714	23-3379	17-567		
8-9845	21-786	652	3753	2	19M	·6923	25-4806	4-966	702	3803	2	20M	·6301	12-4462	13-724		
27-6234	19-919	653	3754	3	19M	·9511	14-5889	1-123	703	3804	3	20M	·8889	1-5545	9-881		
16-7317	16-077	654	3755	5	20M	·2098	3-6972	24-835	704	3805	5	20M	·1477	20-1933	8-014		
5-8400	12-234	655	3756	6	20M	·4686	22-3361	22-968	705	3806	6	20M	·4064	9-3016	4-172		
24-4789	10-367	656	3757	7	19M	·7273	11-4444	19-125	706	3807	7	20M	·6652	27-9405	2-305		
13-5872	6-524	657	3758	1	19M	·9861	0-5527	15-283	707	3808	1	20M	·9209	17-0488	26-017		
2-6955	2-681	658	3759	3	20M	·2448	19-1916	13-416	708	3809	3	20M	·1827	6-1571	22-174		
21-3344	0-815	659	3760	4	20M	·5036	8-2999	9-573	709	3810	4	20M	·4414	24-7960	20-307		
10-4427	24-527	660	3761	5	19M	·7623	26-9388	7-706	710	3811	5	20M	·7002	13-9043	16-464		
29-0816	22-660	661	3762	7	20M	·0211	16-0471	3-864	711	3812	6	20M	·9590	3-0126	12-632		
18-1899	18-817	662	3763	1	20M	·2799	5-1554	0-021	712	3813	1	20M	·2177	21-6515	10-755		
7-2982	14-974	663	3764	2	20M	·5386	23-7943	25-709	713	3814	2	20M	·4765	10-7598	6-912		
25-9370	13-107	664	3765	3	19M	·7974	12-9026	21-866	714	3815	3	20M	·7352	29-3987	5-045		
15-0453	9-265	665	3766	5	20M	·0561	2-0109	18-023	715	3816	4	20M	·9940	18-5070	1-203		
4-1536	5-423	666	3767	6	20M	·3149	20-6498	16-156	716	3817	6	20M	·2527	7-6153	24-914		
22-7925	3-555	667	3768	7	20M	·5737	9-7581	12-314	717	3818	7	20M	·5115	26-2542	23-048		
11-9008	27-267	668	3769	1	19M	·8324	28-3969	10-447	718	3819	1	20M	·7703	15-3625	19-205		
1-0091	23-425	669	3770	3	20M	·0912	17-5052	6-604	719	3820	3	21M	·0290	4-4708	15-362		
19-6480	21-558	670	3771	4	20M	·3499	6-6135	2-761	720	3821	4	20M	·2878	23-1097	13-495		
8-7563	17-715	671	3772	5	20M	·6087	25-2524	0-895	721	3822	5	20M	·5465	12-2180	9-653		
27-3952	15-848	672	3773	6	19M	·8674	14-3607	24-606	722	3823	6	20M	·8053	1-3263	5-810		
16-5035	12-006	673	3774	1	20M	·1262	3-4690	20-764	723	3824	1	21M	·0640	19-9651	3-913		
5-6118	8-163	674	3775	2	20M	·3850	22-1079	18-897	724	3825	2	20M	·3228	9-0784	0-100		
24-2507	6-296	675	3776	3	20M	·6437	11-2162	15-054	725	3826	3	20M	·5815	27-7123	25-788		
13-3590	2-453	676	3777	4	19M	·9025	0-3245	11-212	726	3827	4	20M	·8403	16-8206	21-946		
2-4673	26-165	677	3778	6	20M	·1612	18-9634	9-345	727	3828	6	21M	·0991	5-9289	18-103		
21-1062	24-298	678	3779	7	20M	·4200	8-0717	5-502	728	3829	7	20M	·3578	24-5678	16-236		
10-2145	20-456	679	3780	1	20M	·6787	26-7106	3-635	729	3830	1	20M	·6166	13-6761	12-393		
28-8534	18-589	680	3781	2	19M	·9375	15-8189	27-347	730	3831	2	20M	·8753	2-7844	8-551		
17-9617	14-746	681	3782	4	20M	·1962	4-9272	23-504	731	3832	4	21M	·1341	21-4233	6-04684		
7-0700	10-903	682	3783	5	20M	·4550	23-5661	21-638	732	3833	5	20M	·3928	10-5216	2-841		
25-7088	9-037	683	3784	6	20M	·7138	12-6744	17-795	733	3834	6	20M	·6516	29-1705	0-974		
14-8171	5-194	684	3785	7	19M	·9725	1-7827	13-952	734	3835	7	20M	·9104	18-2788	24-686		
3-9254	1-351	685	3786	2	20M	·2313	20-4216	12-085	735	3836	2	21M	·1691	7-3871	20-843		
22-5643	27-039	686	3787	3	20M	·4900	9-5299	8-242	736	3837	3	20M	·4279	26-0260	18-976		
11-6726	23-196	687	3788	4	20M	·7488	28-1637	6-376	737	3838	4	20M	·6866	15-1343	15-134		
0-7809	19-354	688	3789	5	20M	·0075	17-2770	2-533	738	3839	5	20M	·9454	4-2426	11-291		
19-4198	17-487	689	3790	7	20M	·2663	6-3853	26-245	739	3840	7	21M	·2041	22-8815	9-424		
8-5281	13-644	690	3791	1	20M	·5251	25-0242	24-378	740	3841	1	20M	·4629	11-9897	5-582		
27-1670	11-777	691	3792	2	20M	·7838	14-1325	20-535	741	3842	2	20M	·7217	1-0980	1-739		
16-2753	7-935	692	3793	4	20M	·0426	3-2408	16-693	742	3843	3	20M	·9804	19-7369	27-427		
5-3836	4-093	693	3794	5	20M	·3013	21-8797	14-826	743	3844	5	21M	·2392	8-8452	23-584		
24-0225	2-225	694	3795	6	20M	·5601	10-9808	10-983	744	3845	6	20M	·4979	27-4841	21-717		
13-1308	25-937	695	3796	7	20M	·8188	0-0963	7-140	745	3846	7	20M	·7567	16-5924	17-375		
2-2391	22-094	696	3797	2	20M	·0776	18-7352	5-274	746	3847	1	21M	·0154	5-7007	14-032		
20-8780	20-227	697	3798	3	20M	·3364	7-8435	1-431	747	3848	3	21M	·2742	24-3396	12-165		
9-9863	16-384	698	3799	4	20M	·5951	26-4824	27-119	748	3849	4	20M	·5330	13-4479	8-322		
28-6251	14-518	699	3800	5	20M	·8539	15-5907	23-276	749	3850	5	20M	·7917	2-5562	4-480		



for A.D. 500 to A.D. 999.

First New-Moon in Solar Year	Anomaly of first New-Moon	A.D.	Kaliyuga	Week-day of 1st January	Commence-ment of Indian Solar Year	Day	Fraction of day	First New-Moon in Solar Year	Anomaly of first New-Moon	A.D.	Kaliyuga	Week-day of 1st January	Commence-ment of Indian Solar Year	Day	Fraction of day	First New-Moon in Solar Year	Anomaly of first New-Moon
24-6567	22-105	900	4001	6	21M	·8640	11-6220	3-309	950	4051	6	22M	·8018	28-1184	14-043		
13-7650	18-262	901	4002	1	22M	·1228	0-7306	27-021	951	4052	1	23M	·0606	17-2267	10-200		
2-8733	14-419	902	4003	2	22M	·3815	19-3694	25-154	952	4053	2	22M	·3194	6-3350	6-357		
21-5122	12-552	903	4004	3	22M	·6403	8-4777	21-311	953	4054	3	22M	·5781	24-9739	4-490		
10-6205	8-140	904	4005	4	21M	·8090	27-1166	19-444	954	4055	4	22M	·8369	14-0822	0-648		
29-2594	6-843	905	4006	6	22M	·1578	16-2249	15-602	955	4056	6	23M	·0956	3-1905	24-359		
18-3677	3-000	906	4007	7	22M	·4165	5-3332	11-752	956	4057	7	22M	·3544	21-8293	22-493		
7-4760	26-712	907	4008	1	22M	·6753	23-9721	9-892	957	4058	1	22M	·6131	10-9376	18-650		
26-1149	24-845	908	4009	2	21M	·9341	13-0804	6-049	958	4059	2	22M	·8719	0-0459	14-807		
15-2232	21-003	909	4010	4	22M	·1928	2-1887	2-207	959	4060	4	23M	·1306	18-6848	12-940		
4-3315	17-160	910	4011	5	22M	·4516	20-8276	0-340	960	4061	5	22M	·8894	7-7931	9-098		
22-9704	15-293	911	4012	6	22M	·7103	9-9359	24-052	961	4062	6	22M	·6482	26-4320	7-231		
12-0787	11-450	912	4013	7	21M	·9691	28-5748	22-185	962	4063	7	22M	·9069	15-5408	3-588		
1-1870	7-608	913	4014	2	22M	·2278	17-6831	18-342	963	4064	2	23M	·1657	4-6186	27-100		
19-8259	5-741	914	4015	3	22M	·4866	6-7914	14-499	964	4065	3	22M	·4244	23-2876	25-233		
8-9342	1-898	915	4016	4	22M	·7453	25-4303	12-633	965	4066	4	22M	·6832	12-3958	21-391		
27-5730	0-031	916	4017	5	21M	·0041	14-5386	8-790	966	4067	5	22M	·9419	1-5041	17-548		
16-6813	23-744	917	4018	7	22M	·2629	3-6469	4-947	967	4068	7	23M	·2007	20-1430	15-681		
5-7896	19-901	918	4019	1	22M	·5216	22-2858	3-080	968	4069	1	22M	·4595	9-2512	11-838		
24-4285	18-034	919	4020	2	22M	·7804	11-3941	26-792	969	4070	2	22M	·7182	27-8902	9-972		
13-5368	14-191	920	4021	4	22M	·0391	0-5024	22-949	970	4071	3	22M	·9770	16-9988	6-129		
2-6451	10-348	921	4022	5	22M	·2979	19-1412	21-083	971	4072	5	23M	·2357	6-1068	2-286		
21-2840	8-481	922	4023	6	22M	·5566	8-2495	17-240	972	4073	6	22M	·4945	24-7457	0-419		
10-3923	4-639	923	4024	7	22M	·8154	26-8884	15-373	973	4074	7	22M	·7532	13-8540	24-131		
29-0312	2-772	924	4025	2	22M	·0742	15-9967	11-530	974	4075	1	23M	·0120	2-9623	20-288		
18-1395	26-484	925	4026	3	22M	·3329	5-1050	7-688	975	4076	3	23M	·2708	21-6011	18-422		
7-2478	22-641	926	4027	4	22M	·5917	23-7439	5-828	976	4077	4	22M	·6295	10-7094	14-579		
25-8867	20-774	927	4028	5	22M	·8504	12-8522	1-9787	977	4078	5	22M	·7883	29-3483	12-712		
14-9950	16-932	928	4029	7	22M	·1092	1-9605	25-690	978	4079	7	23M	·0470	18-4566	8-869		
4-1033	13-089	929	4030	1	22M	·3679	20-5994	23-823	979	4080	1	23M	·3058	7-5649	5-080		
22-7422	11-222	930	4031	2	22M	·6267	9-7077	19-980	980	4081	2	22M	·5645	26-2038	3-160		
11-8505	7-379	931	4032	3	22M	·8855	28-3466	18-114	981	4082	3	22M	·8233	15-3121	26-872		
0-9588	3-537	932	4033	5	22M	·1442	17-4549	14-271	982	4083	5	23M	·0821	4-4204	23-029		
19-5977	1-670	933	4034	6	22M	·4020	6-5632	10-428	983	4084	6	23M	·3408	23-0593	21-162		
8-7060	25-382	934	4035	7	22M	·6617	25-2021	8-561	984	4085	7	22M	·5996	12-1676	17-319		
27-3448	23-515	935	4036	1	22M	·9205	14-3104	4-719	985	4086	1	22M	·8583	1-2759	13-477		
16-4531	19-672	936	4037	3	22M	·1792	3-4187	0-876	986	4087	3	23M	·1171	19-9148	11-610		
5-5614	15-829	937	4038	4	22M	·4380	22-0575	26-564	987	4088	4	23M	·3758	9-0231	7-767		
24-2003	13-963	938	4039	5	22M	·6968	11-1658	22-721	988	4089	5	22M	·6346	27-6620	5-900		
13-3086	10-120	939	4040	6	22M	·9555	0-2741	18-878	989	4090	6	22M	·8994	16-7703	2-058		
2-4169	6-277	940	4041	1	22M	·2143	18-9130	17-011	990	4091	1	23M	·1521	5-8786	25-769		
21-0558	4-410	941	4042	2	22M	·4730	8-0213	13-169	991	4092	2	23M	·4109	24-5174	23-903		
10-1641	0-568	942	4043	3	22M	·7318	26-6602	11-299	992	4093	3	22M	·6696	13-6257	20-060		
28-8030	26-256	943	4044	4	22M	·9904	15-7685	7-459	993	4094	4	22M	·9284	2-7340	16-217		
17-9113	22-413	944	4045	5	22M	·2493	4-8768	3-617	994	4095	6	23M	·1871	21-3729	14-350		
7-0196	18-570	945	4046	7	22M	·5081	23-5157	1-750	995	4096	7	23M	·4459	10-4812	10-508		
25-6585	16-703	946	4047	1	22M	·7668	12-6240	25-463	996	4097	1	22M	·7047	29-1201	8-641		
14-7668	12-861	947	4048	2	22M	·0256	1-7323	21-612	997	4098	2	22M	·9634	18-2294	4-798		
3-8751	9-018	948	4049	4	22M	·2843	20-3712	19-752	998	4099	4	23M	·2222	7-3367	0-955		
22-5140	7-151	949	4050	5	22M	·5431	9-4795	15-909	999	4100	5	23M	·4809	25-9756	26-643		

**TABLE X-**

Kaliyuga.	Vikramā Era.	Saka Era.	Com- mence- ment of Solar Year.	Month and day A.D. Fraction of day.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	Week-day of 1st January.	Yaisakha	Jyeshtha	Ashada	Shravana	Bhadrapada						
									Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction						
4101 1057 922 22M	7396	15-0839	22-801	1000 2	7 Ap	6	82	2 My	6	35	3 Je	4	88	5 Jl	4	41	6 Au	2	98
4102 1058 923 22M	7993	4-1922	18-959	1001 4	5 Mr	27	19	6 Ap	25	72	1 My	25	25	4 Jl	23	31	5 Au	21	98
4103 1059 924 23M	2571	22-8311	17-091	1002 5	4 Ap	15	09	5 My	14	62	2 Je	23	78	1 Jl	12	68	3 Au	11	98
4104 1060 925 23M	2158	11-9394	19-249	1003 6	1 Ap	4	45	2 My	3	99	4 Je	2	52	6 Jl	2	05	7 Jl	31	98
4105 1061 926 22M	7746	1-0477	9-406	1004 7	5 Mr	23	82	1 My	21	88	3 Je	20	41	4 Jl	19	94	6 Au	18	98
4106 1062 927 23M	0934	19-6866	7-539	1005 2	7 Ap	22	35	4 Ap	11	72	6 My	11	25	7 Je	9	31	3 Au	7	98
4107 1063 928 23M	2921	8-7949	3-696	1006 3	2 Ap	1	09	3 Ap	30	62	5 My	30	15	6 Je	28	68	1 Jl	28	98
4108 1064 929 23M	5509	27-4398	1-830	1007 4	7 Ap	19	98	2 My	19	51	4 Je	18	05	5 Jl	17	58	2 Au	26	98
4109 1065 930 22M	8096	16-5421	25-542	1008 5	5 Ap	8	35	6 My	7	88	1 Je	6	41	2 Jl	5	94	4 Au	4	98
4110 1066 931 23M	0684	5-6504	21-699	1009 7	2 Mr	28	72	4 Ap	27	25	5 My	26	78	7 Je	25	31	3 Au	23	98
4111 1067 932 23M	3271	24-2892	19-832	1010 1	1 Ap	26	62	3 My	16	15	4 Je	14	68	6 Jl	14	21	7 Au	12	98
4112 1068 933 23M	5359	13-3975	15-389	1011 2	5 Ap	5	98	7 My	5	51	2 Je	4	04	3 Jl	3	57	5 Au	2	98
4113 1069 934 22M	8446	2-5058	12-147	1012 3	3 Mr	25	35	4 Ap	23	88	7 Je	21	94	2 Jl	21	47	4 Au	20	98
4114 1070 935 23M	1034	21-1447	10-280	1013 5	2 Ap	13	25	3 My	12	78	5 Je	11	31	6 Jl	10	84	1 Au	9	98
4115 1071 936 23M	3622	10-2530	6-437	1014 6	6 Ap	2	61	1 My	2	15	2 My	31	68	4 Je	30	21	5 Jl	29	98
4116 1072 937 23M	6209	28-8919	4-570	1015 7	5 Ap	21	51	7 My	21	04	1 Je	19	57	3 Jl	19	10	4 Au	17	98
4117 1073 938 22M	8797	18-0002	0-727	1016 1	2 Ap	9	88	4 My	9	41	5 Je	7	94	7 Jl	7	47	2 Au	6	98
4118 1074 939 23M	1384	7-1085	24-439	1017 3	7 Mr	30	25	1 Ap	28	78	3 My	28	31	4 Je	26	84	7 Au	24	98
4119 1075 940 23M	3972	25-7474	22-573	1018 4	6 Ap	18	14	7 My	17	67	2 Je	16	21	6 Jl	26	37	5 Au	14	98
4120 1076 941 23M	6559	14-8557	18-730	1019 5	3 Ap	7	51	5 My	7	04	6 Je	5	57	3 Jl	15	74	2 Au	3	98
4121 1077 942 22M	9147	3-9640	14-887	1020 6	7 Mr	26	88	2 Ap	25	41	3 My	24	94	1 Jl	5	10	2 Au	3	98
4122 1078 943 23M	1735	22-6029	13-020	1021 1	6 Ap	14	78	1 My	14	31	2 Je	12	84	4 Jl	12	37	5 Au</		

## Surya Siddhanta.

+ 147-65293				+ 177-18353				+ 206-71411				+ 236-24470				+ 265-77529				+ 295-30588				+ 324-83647					
+ 9-880				+ 11-856				+ 13-832				+ 15-808				+ 17-784				+ 19-760				+ 354-36705					
																								+ 21-736					
																								+ 23-712					
Asvina				Kartika				Margasira				Pausha				A.D.	Magha				A.D.	Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
1 S	1	48	3 O	1	1	01	4 O	30	54	6 N	29	07	7	D	28	60	01	2	Jr	27	13	3 F	25	0	66				
7 S	20	37	1 O	19	90	3 N	18	43	4 D	17	97	02	6	Jr	16	50		1	F	15	03	2 Mr	16		56				
4 S	9	74	6 O	9	27	7 N	7	80	2 D	7	33	03	3	Jr	5	86		5	F	4	39	6 Mr	5		92				
2 Au	30	11	3 S	28	64	5 O	28	17	6 N	26	70		1	D	26	23	04	2	Jr	24	76	4 F	23		29				
1 S	17	01	2 O	16	54	4 N	15	07	5 D	14	60	05	7	Jr	13	13		1	F	11	66	3 Mr	13		19				
5 S	6	37	6 O	5	90	1 N	4	43	2 D	3	96	06	4	Jr	2	49		6	F	1	03	7 Mr	2		56				
4 S	25	27	5 O	24	80	7 N	23	33	1 D	22	86	07	3	Jr	21	39		4	F	19	92	6 Mr	21		45				
1 S	14	64	3 O	14	17	4 N	12	70	6 D	12	23	08	7	Jr	10	76		2	F	9	29	3 Mr	9		82				
6 S	3	00	7 O	2	53	2 N	1	07	3 N	30	60		5	D	30	13	09	6	Jr	28	66	1 F	27		19				
4 S	21	90	6 O	21	43	7 N	19	96	2 D	19	49	10	4	Jr	18	02		5	F	16	55	7 Mr	18	0	09				
2 S	11	27	3 O	10	80	5 N	9	33	6 D	8	86	11	1	Jr	7	39		2	F	5	92	4 Mr	7		45				
6 Au	31	64	1 S	30	17	2 O	29	70	4 N	28	23		5	D	27	76	12	7	Jr	26	29	1 F	24		82				
5 S	18	53	7 O	18	06	1 N	16	59	3 D	16	13	13	4	Jr	14	66		6	F	13	19	7 Mr	14		72				
2 S	7	90	4 O	7	43	5 N	5	96	7 D	5	49	14	2	Jr	4	02		3	F	2	55	5 Mr	4		08				
7 Au	28	27	1 S	26	80	3 O	26	33	4 N	24	86		6	D	24	39	15	7	Jr	22	92	2 F	21		45				
6 S	16	17	7 O	15	70	2 N	14	23	3 D	13	76	16	5	Jr	12	29		6	F	10	82	1 Mr	11		35				
3 S	4	53	5 O	4	06	6 N	2	59	1 D	2	12	18	2	D	31	65	17	4	Jr	30	19	5 F	28		72				
2 S	23	43	3 O	22	96	5 N	21	49	7 D	21	02	18	1	Jr	19	55		3	F	18	08	4 Mr	19		61				
6 S	12	83	1 O	12	33	2 N	10	86	4 D	10	39	19	5	Jr	8	92		7	F	7	45	1 Mr	8	0	98				
4 S	2	16	5 O	1	69	7 O	31	23	1 N	29	76	21	3	D	29	29	20	4	Jr	27	82	6 F	26	0	35				
3 S	20	06	4 O	19	59	6 N	18	12	7 D	17	65		2	Jr	16	18		3	F	14	71	5 Mr	16		25				
7 S	9	43	1 O	8	96	3 N	7	49	5 D	7	02	22	6	Jr	5	55	23	1	F	4	08	2 Mr	5		61				
4 Au	29	80	6 S	28	33	7 O	27	86	2 N	26	39		3	D	25	92		5	Jr	24	45	6 F	22		98				
3 S	17	69	5 O	17	22	6 N	15	75	1 D	15	29	24	2	Jr	13	82		4	F	12	35	5 Mr	12		88				
1 S	6	06	2 O	5	59	4 N	4	12	5 D	3	65	25	7	Jr	2	18		1	Jr	31	71	3 Mr	2		24				
6 S	24	96	1 O	24	49	3 N	23	02	4 D	22	55	26	6	Jr	21	08		7	F	19	61	2 Mr	21		14				
4 S	14	33	5 O	13	86	7 N	12	39	1 D	11	92	27	3	Jr	10	45		4	F	8	98	6 Mr	10		51				
1 S	3	69	3 O	3	22	4 N	1	75	6 D	1	28		7	D	30	81	28	2	Jr	29	35	3 F	27		88				
7 S	21	59	2 O	21	12	3 N	19	65	5 D	19	18	29	6	Jr	17	71		1	F	16	24	2 Mr	17		77				
4 S	10	96	6 O	10	49	1 N	9	02	2 D	8	55	30	4	Jr	7	08		5	F	5	61	7 Mr	7		14				
2 Au	31	32	3 S	29	85	5 O	29	39	6 N	27	92		1	D	27	45	31	2	Jr	25	98	4 F	24		51				
1 S	19	22	2 O	18	75	4 N	17	28	5 D	16	81	32	7	Jr	15	84		1	F	13	87	3 Mr	14		41				
5 S	7	59	7 O	7	12	1 N	5	65	3 D	5	18	33	4	Jr	3	71		6	F	2	24	7 Mr	3		77				
2 Au	27	96	4 S	26	49	6 O	26	02	7 N	24	55		2	D	24	08	34	3	Jr	22	61	5 F	21		14				
1 S	15	85	3 O	15	38	4 N	13	91	6 D	13	45	35	7	Jr	11	98		2	F	10	51	4 Mr	12		04				
6 S	5	22	7 O	4	75	2 N	3	28	3 D	2	81	36	5	Jr	1	34		6	Jr	30	87	1 F	29		40				
5 S	23	12	6 O	22	65	1 N	21	18	2 D	20	71	37	4	Jr	19	24		5	F	17	77	7 Mr	19	0	30				
2 S	12	49	4 O	12	02	5 N	10	55	7 D	10	08	38	1	Jr	8	61		3	F	7	14	4 Mr	8	0	67				
6 S	1	85	1 O	1	38	2 O	30	91	4 N	29	44		5	D	28	97	39	7	Jr	27	51	2 F	26	0	04				

**TABLE X-**

Kaliyuga.	Vikrama Era.	Saka Era.	Com- mence- ment of Solar Year.	Month and day A.D.	Fraction of day.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	Week-day of 1st January.	Vaisakha	Jyeshtha	Ashada	Shravana	Bhadrapada.				
									Week-day Month Day	Week-day Month Day	Week-day Month Day	Week-day Month Day	Week-day Month Day	Week-day Month Day				
4140	1096	961	23M	8811	3-7358	10-816	1039	2	3 Mr 27	57	5 Ap 26	10	6 My 25	63	2 JI 23	69	4 Au 22	22
4141	1097	962	23M	0898	22-3747	9-949	1040	3	2 Ap 14	46	3 My 13	99	5 Je 12	53	7 JI 12	06	1 Au 10	59
4142	1098	963	23M	8486	11-4830	5-106	1041	5	6 Ap 3	83	1 My 3	36	2 Je 1	89	4 JI 10	42	5 JI 30	95
4143	1099	964	23M	6073	0-5913	1-264	1042	6	4 Mr 24	20	7 My 22	26	1 Je 20	79	8 JI 20	32	4 Au 18	85
4144	1100	965	23M	8661	19-2302	26-952	1043	7	3 Ap 12	10	4 My 11	63	6 Je 10	16	7 JI 9	69	2 Au 8	22
4145	1101	966	23M	1249	8-3385	23-109	1044	1	7 Mr 31	46	1 Ap 29	99	3 My 29	52	5 Je 28	05	6 JI 27	59
4146	1102	967	23M	8896	26-9773	21-242	1045	3	6 Ap 19	36	7 My 18	89	2 Je 17	42	3 JI 16	95	5 Au 15	48
4147	1103	968	23M	6424	16-0856	17-399	1046	4	3 Ap 8	73	5 My 27	26	6 Je 6	79	1 JI 6	32	2 Au 4	86
4148	1104	969	23M	9011	5-1939	13-557	1047	5	1 Mr 29	09	2 Ap 8	63	4 My 27	16	5 Je 25	69	1 Au 23	75
4149	1105	970	23M	1599	23-8328	11-690	1048	6	6 Ap 15	99	1 My 15	52	3 Je 14	05	4 JI 13	58	6 Au 12	11
4150	1106	971	23M	4186	12-9411	7-847	1049	1	4 Ap 5	36	5 My 4	89	7 Je 3	42	1 JI 2	95	3 Au 10	48
4151	1107	972	23M	6774	2-0494	4-004	1050	2	1 Mr 25	73	3 Ap 24	26	6 Je 22	32	7 JI 21	85	2 Au 20	38
4152	1108	973	23M	9962	20-6883	2-138	1051	3	7 Ap 13	62	4 My 23	79	3 Je 11	05	5 JI 11	22	6 Au 9	75
4153	1109	974	23M	1949	9-7966	25-849	1052	4	4 Ap 1	99	6 My 1	52	1 My 31	05	2 Je 29	58	4 JI 29	11
4154	1110	975	23M	4597	28-4355	23-983	1053	6	3 Ap 20	89	5 My 20	42	6 Je 18	95	1 JI 18	48	3 Au 17	01
4155	1111	976	23M	7124	17-5438	20-140	1054	7	1 Ap 10	26	2 My 9	79	4 Je 8	32	5 JI 7	85	7 Au 6	38
4156	1112	977	23M	9711	6-6521	16-297	1055	1	5 Mr 30	62	7 Ap 29	15	1 My 28	68	3 Je 27	21	6 Au 25	28
4157	1113	978	23M	2299	25-2910	14-430	1056	2	4 Ap 17	52	6 My 17	05	7 Je 15	58	2 JI 15	11	3 Au 13	64
4158	1114	979	23M	4887	14-3993	10-588	1057	4	1 Ap 6	89	3 My 6	42	4 Je 4	95	6 JI 4	48	1 Au 3	01
4159	1115	980	23M	7474	3-5076	6-745	1058	5	6 Mr 27	25	7 Ap 25	79	3 Je 23	85	5 JI 23	38	6 Au 21	91
4160	1116	981	24M	0062	22-1465	4-878	1059	6	5 Ap 15	15	6 My 14	68	1 Je 13	21	2 JI 12	74	4 Au 11	27
4161	1117	982	23M	2650	11-2548	1-085	1060	7	2 Ap 3	52	4 My 3	05	5 Je 1	58	7 JI 10	11	1 JI 30	64
4162	1118	983	23M	5297														











**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47					
	-	6	20			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.	11	39	44			89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.	-	18	15			(☉'s Yoga Eqn.) +					
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		—	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE X-

Kaliyuga.	Vikrama Era.	Saka Era.	Com- mence- ment of Solar Year.	Month and day A.D.	Fraction of day.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	☉'s Anom col. 6		☉'s Anom col. 7		+ 29-53059		+ 59-06117		+ 88-59176		+ 118-12235				
									('s Anom col. 7		+ 1-976		+ 3-952		+ 5-928		+ 7-904						
									Vaisakha	Jyeshtha	Ashada	Sravana	Bhadrapada										
Week-day of 1st January.	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction			
4334	1290	1155	25M	0298	16-9481	13-796	1233	7	1 Ap	10	98	3 My	10	51	5 Je	9	04	6 JI	8	57	1 Au	7	10
4335	1291	1156	25M	2886	6-0564	9-953	1234	1	6 Mr	31	34	7 Ap	29	88	2 My	29	41	3 Je	27	94	7 Au	26	00
4336	1292	1157	25M	5473	24-6953	8-087	1235	2	5 Ap	19	24	6 My	18	77	1 Je	17	30	2 JI	16	83	4 Au	15	36
4337	1293	1158	24M	8061	13-8036	4-244	1236	3	2 Ap	7	61	4 My	7	14	5 Je	5	67	7 JI	5	20	1 Au	3	73
4338	1294	1159	25M	0649	2-9119	0-401	1237	5	6 Mr	27	98	3 My	26	04	4 Je	24	57	6 JI	24	10	7 Au	22	63
4339	1295	1160	25M	3236	21-5508	26-089	1238	6	5 Ap	15	87	7 My	15	40	1 Je	13	04	3 JI	13	47	5 Au	12	00
4340	1296	1161	25M	5824	10-6591	22-246	1239	7	3 Ap	5	24	4 My	4	77	6 Je	3	30	7 JI	2	83	2 Au	1	36
4341	1297	1162	24M	8411	29-2980	20-379	1240	1	7 Mr	24	61	3 My	22	00	5 Je	21	20	6 JI	20	73	1 Au	19	26
4342	1298	1163	25M	0999	18-4063	16-537	1241	3	6 Ap	12	51	1 My	12	04	2 Je	10	57	4 JI	10	10	5 Au	8	63
4343	1299	1164	25M	3586	7-5146	12-694	1242	4	3 Ap	1	87	5 My	1	40	6 My	30	93	1 Je	29	46	3 JI	29	00
4344	1300	1165	25M	6174	26-1534	10-827	1243	5	2 Ap	20	77	4 My	20	30	5 Je	18	83	7 JI	18	96	1 Au	16	89
4345	1301	1166	24M	8762	15-2617	6-984	1244	6	7 Ap	9	14	1 My	8	67	3 Je	7	20	4 JI	6	73	6 Au	5	26
4346	1302	1167	25M	1349	4-3700	3-143	1245	1	4 Mr	29	50	6 Ap	28	03	7 My	27	57	3 JI	25	63	5 Au	24	16
4347	1303	1168	25M	3937	23-0089	1-275	1246	2	3 Ap	17	40	4 My	16	93	6 Je	15	46	7 JI	14	99	2 Au	13	52
4348	1304	1169	25M	6524	12-1172	24-987	1247	3	7 Ap	6	77	2 My	6	30	3 Je	4	83	5 JI	4	36	6 Au	2	89
4349	1305	1170	24M	9112	1-2255	21-144	1248	4	5 Mr	26	14	6 Ap	24	67	2 Je	22	73	4 JI	22	26	5 Au	20	79
4350	1306	1171	25M	1699	19-8644	19-277	1249	6	4 Ap	14	03	5 My	13	56	7 Je	12	09	1 JI	11	63	3 Au	10	16
4351	1307	1172	25M	4287	8-9727	15-434	1250	7	1 Ap	30	40	2 My	2	93	4 Je	1	46	5 Je	30	99	7 JI	30	52
4352	1308	1173	25M	6875	27-6117	13-568	1251	1	7 Ap	22	30	1 My	21	83	3 Je	20	36	4 JI	19	89	6 Au	18	42
4353	1309	1174	24M	9462	16-7199	9-725	1252	2	4 Ap	10	67	6 My	10	20	7 Je	8	73	2 JI	8	26	3 Au	6	79
4354	1310	1175	25M	2050	5-8282	5-883	1253	4	2 Mr	31	03	3 Ap	29	56	5 My	29	09	6 Je	27	62	2 Au	25	69
4355	1311	1176	25M	4637	24-4671	4-015	1254	5	7 Ap	18	93	2 My	18	46	3 Je	16	99	5 JI	16	15	6 Au	14	05
4356	1312	1177	25M	7225	13-5754	0-173	1255	6	5 Ap	8	30	6 My	7	83	1 Je	6	36	2 JI	5	89	4 Au	4	42
4357	1313	1178	24M	9812	2-6837	23-885	1256	7	2 Mr	27	66	4 Ap	26	19	7 Je	24	26	1 JI	23	79	3 Au	22	32
4358	1314	1179	25M	2400	21-3226	22-018	1257	2	1 Ap	15	56	3 My	15	09	4 Je	13	62	6 JI	13	15	7 Au	11	63
4359	1315	1180	25M	4987	10-4309	18-176	1258	3	5 Ap	4	93	7 My	4	46	1 Je	2	99	3 JI	2	52	5 Au	1	05
4360	1316	1181	25M	7575	29-0698	16-308	1259	4	4 Ap	23	83	6 My	23	36	7 Je	21	89	2 JI	21	42	3 Au	19	95
4361	1317	1182	25M	0163	18-1781	12-466	1260	5	2 Ap	12	19	3 My	11	72	5 Je	10	25	6 JI	9	79	1 Au	8	32
4362	1318	1183	25M	2750	7-2864	8-623	1261	7	6 Ap	1	56	1 My	1	09	2 My	30	62	4 Je	29	15	5 JI	28	68
4363	1319	1184	25M	5338	25-9252	6-756	1262	1	5 Ap	20	46	6 My	19	99	1 Je	18	52	3 JI	18	05	4 Au	16	58
4364	1320	1185	25M	7925	15-0335	2-913	1263	2	2 Ap	9	83	4 My	9	36	5 Je	7	89	7 JI	7	42	1 Au	5	95
4365	1321	1186	25M	0513	4-1418	26-625	1264	3	7 Mr	29	19	1 Ap	27	72	3 My	27	25	6 JI	25	31	7 Au	23	85
4366	1322	1187	25M	3100	22-7807	24-758	1265	5	6 Ap	17	09	7 My	16	62	2 Je	15	15	3 JI	14	68	5 Au	13	21
4367	1323	1188	25M	5688	11-8890	20-916	1266	6	3 Ap	6	46	4 My	5	99	6 Je	4	52	1 JI	4	05	2 Au	2	58
4368	1324	1189	25M	8276	0-9973	17-073	1267	7	7 Mr	26	82	2 Ap	25	35	5 Je	23	42	6 JI	22	95	1 Au	21	48
4369	1325	1190	25M	0863	19-6362	15-206	1268	1	6 Ap	13	72	1 My	13	25	2 Je	11	78	4 JI	11	31	5 Au	9	84
4370	1326	1191	25M	3451	8-7445	11-363	1269	3	4 Ap	30	08	5 My	2	62	7 Je	1	15	1 Je	30	68	3 JI	30	21
4371	1327	1192	25M	6038	27-3834	9-497	1270	4	2 Ap	21	99	4 My	21	52	6 Je	20	05	7 JI	19	58	2 Au	18	11
4372	1328	1193	25M	8626	16-4917	5-654	1271	5	7 Ap	11	35	1 My	10	88	3 Je	9	41	4 JI	8	95	6 Au	7	48

## **Jyāya Siddhanta.**

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470
+ 9-880	+ 11-856	+ 13-832	+ 15-808

+ 265.77529  
+ 17.784

+ 295.30588  
+ 19.760

$$\begin{cases} +324.83647 \\ +354.36705 \\ +21.736 \\ +23.712 \end{cases}$$

Asvina				Kartika				Margasira				Pausha				A.D.				Magha				A.D.				Phalgunā				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction				
2 S	50	63		4 O	50	16		5 N	3	69		7 D	3	22		34	1 Jr	1	75		3 Jr	31	28		4 Mr	10	81								
1 S	24	53		3 O	24	06		4 N	22	59		6 D	22	12		35	7 Jr	20	65		2 F	19	18		3 Mr	20	71								
5 S	13	90		7 O	13	43		1 N	11	96		3 D	11	49		36	5 Jr	100	02		6 F	8	55		1 Mr	9	08								
3 S	2	26		4 O	1	79		6 O	31	32		7 N	29	85		37	2 D	290	38		3 Jr	27	92		5 F	26	45								
2 S	21	16		3 O	20	69		5 N	19	22		6 D	18	75		38	1 Jr	17	28		2 F	15	81		4 Mr	17	34								
6 S	10	53		1 O	10	06		2 N	8	59		4 D	8	12		39	5 Jr	6	65		7 F	5	18		1 Mr	6	71								
3 Au	30	89		5 S	29	42		6 O	28	95		1 N	27	49		40	3 D	27	02		4 Jr	25	55		6 F	24	08								
2 S	17	79		4 O	17	32		5 N	15	85		7 D	15	38		41	1 Jr	13	91		3 F	12	44		4 Mr	13	97								
7 S	7	16		1 O	6	69		3 O	5	22		4 D	4	75		42	6 Jr	3	28		7 F	1	81		2 Mr	3	34								
6 S	26	06		7 O	25	59		2 N	24	12		3 D	23	65		43	5 Jr	22	18		6 F	20	71		1 Mr	22	24								
3 S	15	42		4 O	14	95		6 N	13	48		1 D	13	01		44	2 Jr	11	55		4 F	10	08		5 Mr	10	61								
7 S	3	79		2 O	3	32		3 N	1	85		5 D	1	38		45	6 D	30	91		1 Jr	29	44		2 F	27	97								
6 S	22	69		1 O	22	22		2 N	20	75		4 D	20	28		46	5 Jr	18	81		7 F	17	34		1 Mr	18	87								
4 S	12	05		5 O	11	59		7 N	10	12		1 D	9	65		47	3 Jr	8	18		4 F	6	71		6 Mr	8	24								
1 S	1	42		2 S	30	95		4 O	30	48		6 N	29	01		48	7 D	28	54		2 Jr	27	07		3 F	25	61								
7 S	19	32		1 O	18	85		3 N	17	38		4 D	16	91		49	6 Jr	15	44		7 F	13	97		2 Mr	15	50								
4 S	8	69		6 O	8	22		7 N	6	75		2 D	6	28		50	3 Jr	4	81		5 F	3	34		6 Mr	4	87								
2 Au	29	05		5 O	27	11		6 N	25	65		1 D	25	18		51	2 Jr	23	71		4 F	22	24		5 Mr	23	77								
3 S	27	58		2 O	16	48		4 N	15	01		5 D	14	54		52	7 Jr	13	07		1 F	11	60		3 Mr	12	13								
7 S	16	95		2 O	16	48		4 N	15	01		5 D	14	54		53	4 Jr	1	44		6 Jr	31	97		7 Mr	1	50								
5 S	50	32		6 O	4	85		1 N	3	38		2 D	2	91		54	3 Jr	20	34		4 F	18	87		6 Mr	20	40								
4 S	24	22		5 O	23	75		7 N	22	28		1 D	21	81		54	3 Jr	20	34		4 F	18	87		6 Mr	20	40								
1 S	13	58		3 O	13	11		4 N	11	64		6 D	11	17		55	7 Jr	9	71		2 F	8	24		3 Mr	9	77								
5 S	2	95		7 O	2	48		2 N	1	01		3 N	30	54		56	5 D	30	07		6 Jr	28	60		1 F	27	13								
4 S	20	85		6 O	20	38		7 N	18	91		2 D	18	44		57	3 Jr	16	97		5 F	15	50		7 Mr	17	03								
2 S	10	21		3 O	9	75		5 N	8	28		6 D	7	81		58	1 Jr	6	34		2 F	4	87		4 Mr	6	40								
6 Au	30	58		1 S	29	11		4 N	27	17		Pausha Kshaya.					5 D	26	70		7 Jr	25	23		1 F	23	77								
				2 O	28	64		1 N	16	54		3 D	16	07		60	4 Jr	14	60		6 F	13	13		3 Mr	25	30								
5 S	18	48		7 O	18	01		1 N	16	54		3 D	16	07		61	2 Jr	3	97		3 F	1	50		5 Mr	3	03								
2 S	6	85		4 O	6	38		5 N	4	91		7 D	4	44		62	7 Jr	21	87		2 F	20	40		3 Mr	21	93								
1 S	25	74		3 O	25	27		4 N	23	81		6 D	23	34		62	7 Jr	21	87		2 F	20	40		3 Mr	21	93								
6 S	15	11		7 O	14	64		2 N	13	17		3 D	12	70		63	5 Jr	11	23		6 F	9	76		1 Mr	11	29								
3 S	4	48		5 O	4	01		6 N	2	54		1 D	2	07		64	2 D	31	60		4 Jr	30	13		5 F	28	66								
2 S	22	38		3 O	21	91		5 N	20	44		6 D	19	97		65	1 Jr	18	50		3 F	17	03		4 Mr	18	56								
6 S	11	74		1 O	11	27		2 N	9	80		4 D	9	33		66	5 Jr	7	87		7 F	6	40		1 Mr	7	93								
4 S	1	11		5 S	30	64		7 O	30	17		1 N	28	70		68	3 D	28	23		4 Jr	26	76		6 F	25	29								
3 S	20	01		4 O	19	54		6 N	18	07		7 D	17	60		68	2 Jr	16	13		3 F	14	66		5 Mr	15	19								
7 S	8	37		1 O	7	91		3 N	6	44		4 D	5	97		69	6 Jr	4	50		1 F	3	03		2 Mr	4	56								
4 Au	28	74		7 O	26	80		2 N	25	33		3 D	24	86		70	5 Jr	23	39		6 F	21	93		1 Mr	23	46								
6 S	27	27		5 O	16	17		6 N	14	70		1 D	14	23		71	2 Jr	12	76		4 F	11	29		5 Mr	12	82								
3 S	16	64		5 O	16	17		6 N	14	70		1 D	14	23		71	2 Jr	12	76		4 F	11	29		5 Mr	12	82								
1 S	6	01		2 O	5	54		4 N	4	07		5 D	3	60		72	7 Jr	2	13		1 Jr	31	66		3 Mr	1	19								

TABLE X-

			Com- mence- ment of Solar Year.			First New-Moon in Solar Year.			Anomaly of first New-Moon.			A.D.			Week-day of 1st January.			☉'s Anom col. 6			☉'s Anom col. 7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Kaliyuga.			Vikrama Era.			Saka Era.			Month and day A.D.			Fraction of day.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

## Jurya Siddhanta.

+ 147-65293				+ 177-18353				+ 206-71411				+ 236-24470				+ 265-77529				+ 295-30588				{ +324-83647 +354-36705 + 21-786 + 23-712					
+ 9-880				+ 11-856				+ 13-832				+ 15-808				+ 17-784				+ 19-760									
Asvina				Kartika				Margasira				Pausha				A.D.	Magha				A.D.	Phalgun				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		
6 S	23	·90	1 O	23	·43	2 N	21	·97	4 D	21	·50	73	6 Jr	20	·03							7 F	18	·56	2 Mr	20	·09		
4 S	13	·27	5 O	12	·80	7 N	11	·33	1 D	10	·86	74	3 Jr	9	·39							4 F	7	·92	6 Mr	9	·45		
1 S	2	·64	3 O	2	·17	4 O	31	·70	6 N	30	·23		7 D	29	·76	75	2 Jr	28	·29	3 F	26	·82					·82		
7 S	21	·54	2 O	21	·07	3 N	19	·60	5 D	19	·13	76	6 Jr	17	·66							1 F	16	·19	2 Mr	16	·72		
4 S	9	·90	6 O	9	·43	7 N	7	·96	2 D	7	·49	77	4 Jr	6	·03							5 F	4	·56	7 Mr	6	·09		
2 Au	30	·27	3 S	28	·80	6 N	26	·86	Pausha Kshaya.				79	1 D	26	·39	78	2 Jr	24	·92	5 Mr	24	·98				·98		
			5 O	28	·33				5 D	15	·76		7 Jr	14	·29							4 F	23	·45					
1 S	18	·17	2 O	17	·70	4 N	16	·23	3 D	5	·13	80	4 Jr	3	·66							1 F	12	·82	3 Mr	14	·35		
5 S	7	·53	6 O	7	·07	1 N	5	·60	2 D	23	·02	81	3 Jr	21	·55							6 F	2	·19	7 Mr	2	·72		
4 S	25	·43	5 O	24	·96	7 N	23	·49														5 F	20	·09	6 Mr	21	·62		
1 S	14	·80	3 O	14	·33	4 N	12	·86	3 D	12	·39	82	7 Jr	10	·92							2 F	9	·45	3 Mr	10	·98		
6 S	4	·17	7 O	3	·70	2 N	2	·23	1 D	1	·76		5 D	31	·29	83	6 Jr	29	·82	1 F	28	·35					·35		
5 S	23	·06	6 O	22	·59	1 N	21	·13	2 D	20	·66	84	4 Jr	19	·19							5 F	17	·72	7 Mr	18	·25		
2 S	11	·43	3 O	10	·96	5 N	9	·49	7 D	9	·02	85	1 Jr	7	·55							3 F	6	·08	4 Mr	7	·61		
6 Au	31	·80	1 S	30	·33	2 O	29	·86	4 N	28	·39		5 D	27	·92	86	7 Jr	26	·45	1 F	24	·98					·98		
5 S	19	·70	7 O	19	·23	1 N	17	·76	3 D	17	·29	87	4 Jr	15	·82							6 F	14	·35	7 Mr	15	·88		
3 S	9	·06	5 O	8	·59	6 N	7	·12	7 D	6	·65	88	2 Jr	5	·19							3 F	3	·72	5 Mr	4	·25		
1 S	26	·96	3 O	26	·49	5 N	25	·02	6 D	24	·55	89	1 Jr	23	·08							2 F	21	·61	4 Mr	23	·14		
6 S	16	·33	7 O	15	·86	2 N	14	·39	3 D	13	·92	90	5 Jr	12	·45							6 F	10	·98	1 M	12	·51		
3 S	5	·69	5 O	5	·23	6 N	3	·76	1 D	3	·29	91	2 Jr	1	·82							4 Jr	31	·35	5 Mr	1	·88		
2 S	24	·59	4 O	24	·12	5 N	22	·65	7 D	22	·18	92	1 Jr	20	·71							3 F	19	·25	4 Mr	19	·78		
6 S	12	·96	1 O	12	·49	3 N	11	·02	4 D	10	·55	93	6 Jr	9	·08							7 F	7	·61	2 Mr	9	·14		
4 S	2	·33	5 O	1	·86	7 O	31	·39	1 N	29	·92		3 D	29	·45	94	4 Jr	27	·98	6 F	26	·51					·51		
3 S	21	·22	4 O	20	·75	6 N	19	·29	7 D	18	·82	95	2 Jr	17	·35							3 F	15	·88	5 Mr	17	·41		
7 S	10	·59	2 O	10	·12	3 N	8	·65	5 D	8	·18	96	6 Jr	6	·71							1 F	5	·24	2 Mr	5	·77		
4 Au	29	·96	6 S	28	·49	1 O	28	·02	Pausha Kshaya.				98	4 D	26	·08	97	5 Jr	24	·61	1 M	24	·67				·67		
			2 N	26	·55				1 D	15	·45		7 F	23	·14							4 F	12	·51	6 Mr	14	·04		
3 S	17	·86	5 O	17	·39	6 N	15	·92	5 D	5	·81	99	2 Jr	13	·98							1 F	1	·88	3 Mr	3	·41		
1 S	7	·22	2 O	6	·75	4 N	5	·28	4 D	23	·71	13	6 Jr	22	·24	00	7 Jr	3	·35			7 F	20	·77	2 Mr	21	·30		
7 S	26	·12	1 O	25	·65	3 N	24	·18																					
4 S	14	·49	6 O	14	·02	7 N	12	·55	2 D	12	·08	01	3 Jr	10	·61							5 F	9	·14	6 Mr	10	·67		
1 S	3	·85	3 O	3	·39	4 N	1	·92	6 D	1	·45		7 D	30	·98	02	2 Jr	29	·51	4 F	28	·04					·04		
7 S	22	·75	2 O	22	·28	3 N	20	·81	5 D	20	·34	03	6 Jr	18	·87							1 F	17	·41	2 Mr	18	·94		
5 S	12	·12	6 O	11	·65	1 N	10	·18	2 D	9	·71	04	4 Jr	8	·24							5 F	6	·77	7 Mr	7	·30		
2 Au	31	·49	4 S	30	·02	5 O	29	·55	7 N	28	·08		1 D	27	·61	05	3 Jr	26	·14	4 F	24	·67					·67		
1 S	19	·38	2 O	18	·92	4 N	17	·45	5 D	16	·98	06	7 Jr	15	·51							2 F	14	·04	3 Mr	15	·57		
5 S	8	·75	7 O	8	·28	1 N	6	·81	3 D	6	·34	07	4 Jr	4	·87							6 F	3	·40	7 Mr	4	·94		
4 S	27	·65	6 O	27	·18	7 N	25	·71	2 D	25	·24	08	3 Jr	23	·77							5 F	22	·30	6 Mr	22	·83		
2 S	16	·02	3 O	15	·55	5 N	14	·08	6 D	13	·61	09	1 Jr	12	·14							2 F	10	·67	4 Mr	12	·20		
6 S	5	·38	7 O	4	·91	2 N	3	·44	3 D	2	·98	10	5 Jr	1	·51							7 Jr	31	·04	1 Mr	1	·57		
5 S	24	·28	6 O	23	·81	1 N	22	·34	2 D	21	·87	11	4 Jr	20	·40							5 F	18	·93	7 Mr	20	·47		

TABLE X-

Kaliyuga.	Vikrama Era.	Saka Era.	Month and day A.D.	Com- mence- ment of Solar Year. Fraction of day.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	☉'s Anom col. 6		☉'s Anom col. 7		+ 29-53059		+ 59-06117		+ 88-59176		+ 118-12235		
								+ 1-976		+ 3-952		+ 5-928		+ 7-904						
								Yaisakha		Jyeshtha		Ashada		Srawana		Bhadrapada				
Week-day of 1st January.								Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	
4412	1368	1233	26M	·2128	23-7825	19-357	<b>1311</b>	6	2	Ap	19	·00	3	My	18	·53	5	Je	17	·06
4413	1369	1234	25M	·4716	12-8908	15-514	<b>1312</b>	7	6	Ap	7	·36	7	My	6	·89	2	Je	50	·42
4414	1370	1235	25M	·7304	1-9991	11-672	<b>1313</b>	2	3	Mr	27	·73	5	Ap	26	·26	1	Je	24	·32
													6	My	250	·79	2	Jl	23	·85
4415	1371	1236	25M	·9892	20-6380	9-805	<b>1314</b>	3	2	Ap	15	·63	4	My	150	·16	5	Je	13	·69
4416	1372	1237	26M	·2479	9-7463	5-962	<b>1315</b>	4	7	Ap	50	·00	1	My	40	·53	3	Je	3	·06
																	4	Jl	2	·59
4417	1373	1238	25M	·5066	28-3851	4-095	<b>1316</b>	5	5	Ap	22	·89	7	My	22	·42	1	Je	20	·95
4418	1374	1239	25M	·7654	17-4934	0-254	<b>1317</b>	7	3	Ap	12	·26	4	My	11	·79	6	Je	10	·32
4419	1375	1240	26M	·0241	6-6017	23-964	<b>1318</b>	1	7	Ap	1	·63	2	My	1	·16	3	My	30	·69
																	5	Je	29	·22
4420	1376	1241	26M	·2829	25-2406	22-098	<b>1319</b>	2	6	Ap	20	·53	1	My	20	·06	2	Je	18	·59
4421	1377	1242	25M	·5416	14-3489	18-255	<b>1320</b>	3	3	Ap	8	·89	5	My	8	·42	6	Je	6	·95
4422	1378	1243	25M	·8004	3-4572	14-412	<b>1321</b>	5	1	Mr	29	·26	2	Ap	27	·79	4	My	27	·32
																	5	Je	250	·85
4423	1379	1244	26M	·0591	22-0961	12-545	<b>1322</b>	6	7	Ap	17	·16	1	My	16	·69	3	Je	15	·22
4424	1380	1245	26M	·3179	11-2044	8-702	<b>1323</b>	7	4	Ap	6	·52	6	My	60	·06	7	Je	4	·59
4425	1381	1246	25M	·5767	0-3127	4-860	<b>1324</b>	1	1	Mr	25	·89	4	My	23	·95	6	Je	22	·48
																	1	Jl	22	·01
4426	1382	1247	25M	·8354	18-9516	2-994	<b>1325</b>	3	7	Ap	13	·79	2	My	13	·32	3	Je	11	·85
4427	1383	1248	26M	·0942	8-0599	26-705	<b>1326</b>	4	5	Ap	30	·16	6	My	2	·69	1	Je	1	·22
																	2	Je	30	·75
4428	1384	1249	26M	·3528	26-6988	24-838	<b>1327</b>	5	4	Ap	22	·05	5	My	21	·59	7	Je	20	·12
4429	1385	1250	25M	·6117	15-8071	20-995	<b>1328</b>	6	1	Ap	10	·42	2	My	9	·95	4	Je	8	·48
4430	1386	1251	25M	·8705	4-9154	17-153	<b>1329</b>	1	5	Mr	30	·79	7	Ap	29	·32	1	My	28	·85
																	3	Je	27	·88
4431	1387	1252	26M	·1292	23-5543	15-286	<b>1330</b>	2	4	Ap	18	·69	6	My	18	·22	7	Je	160	·75
4432	1388	1253	26M	·3880	12-6626	11-443	<b>1331</b>	3	2	Ap	8	·05	3	My	7	·58	5	Je	60	·11
4433	1389	1254	25M	·6467	1-7709	7-600	<b>1332</b>	4	6	Mr	27	·42	7	Ap	25	·95	4	Je	24	·01
																	2	My	250	·48
4434	1390	1255	25M	·9055	20-4097	5-734	<b>1333</b>	6	5	Ap	150	·32	6	My	14	·85	1	Je	13	·98
4435	1391	1256	26M	·1642	9-5180	1-891	<b>1334</b>	7	2	Ap	40	·69	4	My	40	·22	5	Je	2	·75
																	7	Jl	2	·28
4436	1392	1257	26M	·4230	23-1569	0-024	<b>1335</b>	1	1	Ap	23	·58	3	My	23	·11	4	Je	21	·64
4437	1393	1258	25M	·6818	17-2652	23-736	<b>1336</b>	2	5	Ap	11	·95	7	My	11	·48	2	Je	10	·01
4438	1394	1259	25M	·9405	6-3735	19-893	<b>1337</b>	4	3	Ap	1	·32	4	Ap	30	·85	6	My	30	·38
																	2	Jl	280	·44
4439	1395	1260	26M	·1993	25-0124	18-027	<b>1338</b>	5	2	Ap	20	·22	3	My	19	·75	5	Je	18	·28
4440	1396	1261	26M	·4580	14-1207	14-184	<b>1339</b>	6	6	Ap	9	·58	1	My	9	·11	2	Je	7	·64
4441	1397	1262	25M	·7168	3-2290	10-341	<b>1340</b>	7	3	Mr	28	·95	5	Ap	27	·48	7	My	27	·01
																	1	Je	25	·54
4442	1398	1263	25M	·9755	21-8679	8-474	<b>1341</b>	2	2	Ap	16	·85	4	My	160	·38	5	Je	14	·91
4443	1399	1264	26M	·2343	10-9762	4-632	<b>1342</b>	3	7	Ap	6	·21	1	My	50	·75	3	Je	4	·28
4444	1400	1265	26M	·4930	0-0845	0-789	<b>1343</b>	4	4	Mr	26	·58	7	My	24	·64	2	Je	23	·17
																	3	Jl	22	·70
4445	1401	1266	25M	·7518	18-7234	26-477	<b>1344</b>	5	3	Ap	13	·48	5	My	13	·01	6	Je	11	·54
4446	1402	1267	26M	·0106	7-8317	22-634	<b>1345</b>	7	7	Ap	2	·84	2	My	2	·38	3	My	31	·91
																	5	Je	30	·44
4447	1403	1268	26M	·2693	26-4706	20-767	<b>1346</b>	1	6	Ap	21	·74	1	My	21	·28	2	Je	19	·81
4448	1404	1269	26M	·5281	15-5789	16-924	<b>1347</b>	2	4	Ap	11	·11	5	My	10	·64	7	Je	9	·17
4449	1405	1270	25M	·7868	4-6872	13-082	<b>1348</b>	2	1	Mr	30	·48	3	Ap	29	·01	4	My	28	·54
																	6	Je	270	·07
4450	1406	1271	26M	·0456	23-3261	11-215	<b>1349</b>	5	7	Ap	48	·38	1	My	17	·91	3	Je	160	·44
																	4	Jl	15	·97

## Surya Siddhanta.

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	+ 324-88647
+ 9-880	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760	+ 354-36705
						+ 21-736
						+ 23-712

Aavina				Kartika				Margasira				Pausa				A.D.	Magha				A.D.	Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		
2 S	13	65	4 O	13	18	5 N	11	71	7 D	11	24	12	1 Jr	9	77	13	3 F	8	30	4 Mr	8	83	7 Jr	27	67	2 F	26	20	
7 S	2	02	1 O	1	55	3 O	31	08	4 N	29	61	14	6 D	29	14	13	7 Jr	27	67	2 F	26	20	6 F	15	57	1 Mr	17	10	
5 S	20	91	7 O	20	44	1 N	18	98	3 D	18	51	14	5 Jr	17	04	13	6 F	15	57	1 Mr	17	10	6 F	15	57	1 Mr	17	10	
3 S	10	28	4 O	9	81	6 N	8	34	7 D	7	87	15	2 Jr	6	40	16	3 F	4	93	5 Mr	6	46	1 Jr	25	30	4 Mr	24	36	
7 Au	30	65	2 S	29	18	Margasira Kshaya				5 N	27	24	15	2 Jr	6	40	16	3 F	4	93	5 Mr	6	46	1 Jr	25	30	4 Mr	24	36
6 S	17	55	1 O	17	08	2 N	15	61	4 D	15	14	17	5 Jr	13	67	16	7 F	12	20	1 Mr	13	73	7 F	12	20	1 Mr	13	73	
3 S	6	91	5 O	6	44	6 N	4	97	1 D	4	50	18	3 Jr	3	04	16	4 F	1	57	6 Mr	8	10	4 F	1	57	6 Mr	8	10	
2 S	25	81	4 O	25	34	5 N	23	87	7 D	23	40	19	1 Jr	21	93	16	3 F	20	46	5 Mr	22	63	3 F	20	46	5 Mr	22	63	
7 S	15	18	1 O	14	71	3 N	13	24	4 D	12	77	20	6 Jr	11	30	21	7 F	9	83	2 Mr	10	36	5 Jr	29	20	6 F	27	73	
4 S	3	55	6 O	3	08	7 N	1	61	2 D	1	14	22	3 D	30	67	21	4 F	17	10	5 Mr	18	63	5 Jr	29	20	6 F	27	73	
3 S	22	44	4 O	21	97	6 N	20	50	1 D	20	04	22	2 Jr	18	57	21	4 F	17	10	5 Mr	18	63	4 F	17	10	5 Mr	18	63	
7 S	11	81	2 O	11	34	3 N	9	87	5 D	9	40	23	6 Jr	7	93	24	1 F	6	46	2 Mr	7	99	5 Jr	26	83	7 F	25	36	
5 S	1	18	6 S	30	71	1 O	30	24	2 N	28	77	25	4 D	28	30	24	5 Jr	26	83	7 F	25	36	4 F	13	73	6 Mr	15	26	
4 S	19	08	5 O	18	61	7 N	17	14	1 D	16	67	25	3 Jr	15	20	24	4 F	13	73	6 Mr	15	26	4 F	13	73	6 Mr	15	26	
1 S	8	44	2 O	7	97	4 N	6	50	6 D	6	03	26	7 Jr	4	56	27	2 F	3	10	3 Mr	4	63	1 F	22	99	2 Mr	23	52	
7 S	27	34	1 O	26	87	3 N	25	40	4 D	24	93	27	6 Jr	23	46	27	1 F	22	99	2 Mr	23	52	1 F	22	99	2 Mr	23	52	
4 S	16	71	6 O	16	24	7 N	14	77	2 D	14	30	28	3 Jr	12	83	28	5 F	11	36	6 Mr	11	89	3 Jr	28	86	4 Mr	1	26	
2 S	5	07	3 O	4	61	5 N	3	14	6 D	2	67	29	1 Jr	1	20	29	2 Jr	30	73	4 Mr	1	26	2 Jr	30	73	4 Mr	1	26	
7 S	23	97	2 O	23	50	4 N	22	03	5 D	21	56	30	7 Jr	20	09	30	1 F	18	63	3 Mr	20	16	1 F	18	63	3 Mr	20	16	
5 S	13	34	6 O	12	87	1 N	11	40	2 D	10	93	31	4 Jr	9	46	31	5 F	7	99	7 Mr	9	52	3 Jr	28	86	4 F	26	89	
2 S	2	71	4 O	2	24	5 O	31	77	7 N	30	30	33	1 D	29	83	32	3 Jr	28	86	4 F	26	89	2 F	15	26	3 Mr	16	79	
1 S	20	60	3 O	20	14	4 N	18	67	6 D	18	20	33	7 Jr	16	73	32	2 F	15	26	3 Mr	16	79	2 F	15	26	3 Mr	16	79	
5 S	9	97	7 O	9	50	2 N	8	03	3 D	7	56	34	5 Jr	6	09	34	6 F	4	92	1 Mr	6	16	3 Jr	24	99	7 Mr	25	05	
3 Au	30	34	6 O	28	40	7 N	26	93				36	2 D	26	46	35	3 Jr	24	99	7 Mr	25	05	5 F	23	52	2 F	12	89	
4 S	28	87	3 O	17	77	5 N	16	30	6 D	15	83	36	1 Jr	14	36	36	2 F	12	89	4 Mr	13	42	5 F	23	52	2 F	12	89	
2 S	18	24	3 O	17	77	5 N	16	30	6 D	15	83	37	5 Jr	2	73	37	7 F	10	26	1 Mr	2	79	2 F	12	89	4 Mr	13	42	
6 S	6	60	1 O	6	13	2 N	4	66	4 D	4	20	38	4 Jr	21	62	38	6 F	20	15	7 Mr	21	68	4 Jr	21	62	4 Jr	21	62	
5 S	25	50	7 O	25	03	1 N	23	56	3 D	23	09	39	1 Jr	10	99	39	3 F	9	52	5 Mr	11	05	1 Jr	26	52	3 F	25	05	
2 S	14	87	4 O	14	40	5 N	12	93	7 D	12	46	41	6 D	31	36	40	7 Jr	29	89	2 F	28	42	6 D	31	36	2 F	28	42	
7 S	4	24	1 O	3	77	3 N	2	30	4 D	1	83	41	5 Jr	18	26	41	6 F	16	79	1 Mr	18	32	5 Jr	18	26	6 F	16	79	
6 S	22	13	7 O	21	66	2 N	20	19	3 D	19	73	42	2 Jr	7	62	42	4 F	6	15	5 Mr	7	68	2 Jr	27	99	3 F	25	05	
3 S	11	50	5 O	11	03	6 N	9	56	7 D	9	09	42	6 D	27	99	43	1 Jr	26	52	3 F	25	05	6 D	27	99	3 F	25	05	
7 Au	31	87	2 S	30	40	3 O	29	93	5 N	28	46	44	5 Jr	15	89	44	7 F	14	42	1 Mr	14	95	5 Jr	15	89	5 Jr	15	89	
6 S	19	77	1 O	19	30	2 N	17	83	4 D	17	36	45	3 Jr	4	26	45	4 F	2	79	6 Mr	4	32	3 Jr	24	99	6 Mr	4	32	
4 S	8	13	5 O	7	66	7 N	6	19	1 D	5	72	46	2 Jr	23	15	46	3 F	21	68	5 Mr	23	21	2 Jr	23	15	5 Mr	23	21	
3 S	27	03	4 O	26	56	6 N	25	09	7 D	24	62	47	6 Jr	12	52	47	1 F	11	05	2 Mr	12	58	6 Jr	12	52	2 Mr	12	58	
7 S	16	40	1 O	15	93	3 N	14	46	4 D	13	99	48	3 Jr	10	89	48	5 Jr	31	42	6 F	29	95	3 Jr	10	89	6 F	29	95	
4 S	5	76	6 O	5	30	7 N	3	83	2 D	3	96	49	2 Jr	19	79	49	4 F	18	32	5 Mr	19	85	2 Jr	19	79	5 Mr	19	85	
3 S	23	66	5 O	23	19	6 N	21	72	1 D	21	25	49	2 Jr	19	79	49	4 F	18	32	5 Mr	19	85	2 Jr	19	79	5 Mr	19	85	
1 S	13	03	2 O	12	56	4 N	11	09	5 D	10	62	50	7 Jr	9	15	50	1 F	7	68	3 Mr	9	21	7 Jr	9	15	3 Mr	9	21	





**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE X-**

Kaliyuga.	Vikrama Era.	Saka Era.	Com- mence- ment of Solar Year.	Month and Day A. D.	Fraction of Day.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	Week-day of 1st January.	Vaisakha.				Jyeshtha.				Ashada.				Sravana.				Bhadrapada.			
										Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
4490	1446	1311	26M	26	3958	1-0862	22-942	1389	6	7	Mr	27	49	2	Ap	26	02	5	Je	24	08	6	Jl	23	61	1	Au	22	14
4491	1447	1312	26M	26	6546	19-7251	21-075	1390	7	6	Ap	15	39	3	My	25	55	2	Je	13	45	3	Jl	12	98	5	Au	11	51
4492	1448	1313	26M	26	9134	8-8334	17-232	1391	1	3	Ap	4	75	7	My	14	92	6	Je	2	81	1	Jl	2	34	2	Jl	31	87
4493	1449	1314	26M	26	1721	27-4723	15-366	1392	2	2	Ap	22	65	4	My	22	18	5	Je	20	71	7	Jl	20	24	4	Au	30	41
4494	1450	1315	26M	26	4309	16-5806	11-523	1393	4	7	Ap	12	02	1	My	11	55	3	Je	10	08	4	Jl	9	61	1	Au	18	77
4495	1451	1316	26M	26	6896	5-6889	7-680	1394	5	4	Ap	1	38	6	My	1	91	7	My	30	45	1	Je	28	98	5	Au	27	04
4496	1452	1317	26M	26	9484	24-3278	5-813	1395	6	3	Ap	20	28	4	My	19	81	6	Je	18	34	7	Jl	17	87	2	Au	16	40
4497	1453	1318	26M	26	2071	13-4361	1-970	1396	7	7	Ap	8	65	2	My	8	18	3	Je	6	71	5	Jl	6	24	6	Au	4	77
4498	1454	1319	26M	26	4659	2-5444	25-683	1397	2	5	Mr	29	02	6	Ap	27	55	2	Je	25	61	4	Jl	25	14	5	Au	23	67
4499	1455	1320	26M	26	7247	21-1833	23-816	1398	3	3	Ap	16	91	1	My	27	08	5	My	16	44	6	Je	14	97	1	Jl	14	04
4500	1456	1321	26M	26	9834	10-2916	19-973	1399	4	1	Ap	6	28	2	My	5	81	4	Je	4	34	5	Jl	3	87	7	Au	2	40
4501	1457	1322	26M	26	2422	28-9305	18-106	1400	5	7	Ap	24	18	1	My	23	71	3	Je	22	24	4	Jl	21	77	6	Au	20	30
4502	1458	1323	26M	26	5009	18-0388	14-264	1401	7	4	Ap	13	55	6	My	13	08	7	Je	11	61	2	Jl	11	14	3	Au	9	67
4503	1459	1324	26M	26	7597	7-1471	10-421	1402	1	1	Ap	2	91	3	My	2	44	4	My	31	97	6	Je	30	50	1	Jl	30	03
4504	1460	1325	27M	27	0184	25-7860	8-554	1403	2	7	Ap	21	81	2	My	21	34	3	Je	19	87	5	Jl	19	40	6	Au	17	93
4505	1461	1326	26M	26	2772	14-8943	4-711	1404	3	5	Ap	10	18	6	My	9	71	1	Je	8	24	2	Jl	7	77	4	Au	6	30
4506	1462	1327	26M	26	5360	4-0026	0-869	1405	5	2	Mr	30	54	4	Ap	29	07	5	My	28	61	1	Jl	26	67	3	Au	25	20
4507	1463	1328	26M	26	7947	22-6414	26-556	1406	6	1	Ap	18	44	2	My	17	97	4	Je	16	50	6	Jl	16	03	7	Au	14	56
4508	1464	1329	27M	27	0535	11-7497	22-714	1407	7	5	Ap	7	81	7	My	7	34	1	Je	5	87	3	Jl	5	40	4	Au	3	93
4509	1465	1330	26M	26	3122	0-8580	18-871	1408	1	3	Mr	27	18	6	My	25	24	7	Je	23	77	2	Jl	23	30	3	Au	21	88
4510	1466	1331	26M	26	5710	19-4969	17-004	1409	3	2	Ap	15	07	3	My	14	60	5	Je	13	13	6	Jl	12	67	1	Au	11	20
4511	1467	1332	26M	26	8297	8-6052	13-161	1410	4	6	Ap	4	44	7	My	3	97	2	Je	2	50	4	Jl	2	03	5	Jl	31	56
4512	1468	1333	27M	27	0885	27-2441	11-295	1411	5	5	Ap	23	34	6	My	22	87	1	Je	21	40	2	Jl	20	93	4	Au	19	09
4513	1469	1334	26M	26	3472	16-3524	7-453	1412	6	2	Ap	11	71	4	My	11	24	5	Je	9	77	7	Jl	9	30	1	Au	7	83
4514	1470	1335	26M	26	6060	5-4607	3-609	1413	1	7	Ap	1	07	1	Ap	30	60	3	My	30	13	6	Jl	28	19	7	Au	26	72
4515	1471	1336	26M	26	8648	24-0996	1-742	1414	2	5	Ap	19	97	7	My	19	50	2	Je	18	03	3	Jl	17	56	5	Au	16	09
4516	1472	1337	27M	27	1235	13-2079	25-454	1415	3	3	Ap	9	34	4	My	8	87	6	Je	7	40	7	Jl	6	93	2	Au	5	46
4517	1473	1338	26M	26	3823	2-3162	21-612	1416	4	7	Mr	28	70	2	Ap	27	23	5	Je	25	30	6	Jl	24	83	1	Au	23	86
4518	1474	1339	26M	26	6410	20-9551	19-745	1417	6	6	Ap	16	60	3	My	16	13	2	Je	14	66	4	Jl	14	19	5	Au	12	72
4519	1475	1340	26M	26	8998	10-0634	15-902	1418	7	3	Ap	5	97	5	My	5	50	7	Je	4	03	1	Jl	3	56	3	Au	2	09
4520	1476	1341	27M	27	1585	28-7023	14-035	1419	1	2	Ap	24	87	4	My	24	40	5	Je	22	93	7	Jl	22	46	1	Au	20	99
4521	1477	1342	26M	26	4173	17-8106	10-193	1420	2	7	Ap	13	23	1	My	12	76	3	Je	11	29	4	Jl	10	83	6	Au	9	36
4522	1478	1343	26M	26	6761	6-9189	6-350	1421	4	4	Ap	2	60	6	My	2	13	7	My	31	66	2	Je	30	19	5	Au	28	25
4523	1479	1344	26M	26	9348	23-5578	4-483	1422	5	3	Ap	21	50	5	My	21	03	6	Je	19	56	1	Jl	19	09	2	Au	17	62
4524	1480	1345	27M	27	1936	14-6660	0-640	1423	6	7	Ap	10	87	2	My	10	40	3	Je	8	93	5	Jl	8	46	6	Au	6	99
4525	1481	1346	26M	26	4523	3-7743	24-352	1424	7	5	Mr	30	23	6	Ap	28	76	1	My	28	2	2	Je	26	35	5	Au	24	89
4526	1482	1347	26M	26	7111	22-4132	22-485	1425	2	4	Ap	18	13	5	My	17	66	7	Je	16	19	1	Jl	15	72	3	Au	14	25
4527	1483	1348	26M	26	9698	11-5215	18-644	1426	3	1	Ap	7	50	3	My	7	03	4	Je	5	56	6	Jl	5	09	7	Au	3	62
4528	1484	1349	27M	27	2286	0-6298	14-800	1427	4	5	Mr	27	86	1	My	25	93	3	Je	24	46	4	Jl	23	99	6	Au	22	52

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.											
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
	11	39	44			89	27	16	8	58	0
Sum - 18 gh. 15 p.											
	-	18	15			(☉'s Yoga Eqn.) +			1	25	
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.											
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
	11	39	44			89	27	16	8	58	0
Sum - 18 gh. 15 p.											
	-	18	15			(☉'s Yoga Eqn.) +			1	25	
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.			Nakshatras.			Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.											
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
	11	39	44			89	27	16	8	58	0
Sum - 18 gh. 15 p.											
	-	18	15			(☉'s Yoga Eqn.) +			1	25	
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.





## Surya Siddhanta.

+ 147'65293	+ 177'18353	+ 206'71411	+ 236'24470	+ 265'77529	+ 295'30588	+ 324'83647		
+ 9'880	+ 11'856	+ 13'832	+ 15'808	+ 17'784	+ 19'760	+ 354'36705		
						+ 21'736		
						+ 23'712		
Asvina	Kartika	Margasira	Pausha	A.D.	Magha	A.D.	Phalguna	Chaitra
Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction		Week-day Month Day Fraction		Week-day Month Day Fraction	Week-day Month Day Fraction
5 S 17 .43 6 O 16 .96 1 N 15 .49 3 D 15 .02 07 4 Jr 13● .55 6 F 12 .08 7 Mr 13 .61	2 S 6 .79 4 O 6 .32 5 N 4 .85 7 D 4○ .38 08 1 Jr 2 .92 3 F 1 .45 4 Mr 1 .98	1 S 24 .69 3 O 24 .22 4 N 22○ .75 6 D 22 .28 09 7 Jr 20 .81 2 F 19 .34 3 Mr 20 .87						
6 S 14 .06 7 O 13 .59 2 N 12● .12 3 D 11 .65 10 5 Jr 10 .18 6 F 8 .71 1 Mr 10 .24	3 S 3 .42 4 O 2 .96 6 N 1 .49 1 D 1 .02 2 S 22○ .32 3 O 21 .85 5 N 20 .38 6 D 19 .91 12 1 Jr 18 .44 2 D 30 .55 4 Jr 29 .08 5 F 27 .61					11 4 F 16 .98 4 Mr 17○ .51		
6 S 10○ .69 1 O 10 .22 2 N 8 .75 4 D 8 .28 13 5 Jr 6 .81 7 F 5 .34 1 Mr 6● .87	5 S 29 .59 7 O 29 .12 1 N 27 .65 3 D 27 .18 14 4 Jr 25○ .71 6 F 24 .24 7 Mr 25 .77							
2 S 18 .95 4 O 18 .48 6 N 17 .02 7 D 16 .55 15 2 Jr 15○ .08 3 F 13 .61 5 Mr 15 .14	7 S 8 .32 1 O 7 .85 3 N 6 .38 4 D 5 .91 16 6 Jr 4● .44 7 F 2 .97 2 Mr 3 .50							
6 S 26 .22 7 O 25 .75 2 N 24 .28 3 D 23 .81 17 5 Jr 22 .34 6 F 20 .87 1 Mr 22 .40								
3 S 15 .57 5 O 15 .12 6 N 13 .65 1 D 13● .18 18 2 Jr 11 .71 4 F 10 .24 5 Mr 11 .77	7 S 4 .95 2 O 4 .48 4 N 3○ .01 5 D 2 .54 19 7 Jr 1 .08 1 Jr 30 .61 3 Mr 1 .14							
6 S 23 .85 1 O 23○ .38 2 N 21 .91 4 D 21 .44 20 5 Jr 19 .97 7 F 18 .50 2 Mr 19 .03								
4 S 12 .22 5 O 11○ .75 7 N 10 .28 1 D 9 .81 21 3 Jr 8 .34 4 F 6 .87 6 Mr 8 .40	1 S 1 .58 3 O 1 .12 6 N 29 .18 6 N 29 .18 7 D 28 .71 22 2 Jr 27 .24 3 F 25○ .77	Margasira Kshaya				22 2 Jr 27 .24 3 F 25○ .77		
7 S 20 .48 2 O 20 .01 3 N 18 .54 5 D 18 .07 23 6 Jr 16 .60 1 F 15○ .14 2 Mr 16 .67								
4 S 9 .85 6 O 9 .38 7 N 7 .91 2 D 7 .44 24 3 Jr 5 .97 5 F 4○ .50 7 Mr 5 .03	3 S 27 .75 5 O 27 .28 6 N 25 .81 1 D 25 .34 25 2 Jr 23 .87 4 F 22 .40 5 Mr 23 .93							
1 S 17 .11 2 O 16 .64 4 N 15 .18 5 D 14○ .71 26 7 Jr 13● .24 1 F 11 .77 3 Mr 13 .30	5 S 6 .48 7 O 6 .01 1 N 4 .54 3 D 4○ .07 27 4 Jr 2 .60 6 F 1 .13 7 Mr 2 .66							
4 S 25 .38 5 O 24 .91 7 N 23○ .44 1 D 22 .97 28 3 Jr 21 .50 5 F 20 .03 6 Mr 20 .56								
1 S 13 .75 3 O 13 .28 4 N 11● .81 6 D 11 .34 29 7 Jr 9 .87 2 F 8 .40 3 Mr 9 .93	6 S 3 .11 7 O 2○ .64 2 N 1● .17 3 N 30 .70 5 D 30 .24 6 Jr 28 .77 1 F 27 .30					30 4 Jr 18 .13 5 F 16 .66 7 Mr 18○ .19		
5 S 22○ .01 6 O 21 .54 1 N 20 .07 2 D 19 .60 31 4 Jr 18 .13 3 F 6 .03 4 Mr 6 .56	2 S 11○ .38 3 O 10 .91 5 N 9 .44 6 D 8 .97 32 1 Jr 7 .50 1 F 23 .93 3 Mr 25 .46							
1 S 29 .28 2 O 28 .81 4 N 27 .34 5 D 26 .87 33 7 Jr 25○ .40 6 F 13 .30 7 Mr 14 .83								
5 S 18 .64 7 O 18 .17 1 N 16 .70 3 D 16 .23 34 4 Jr 14○ .76 3 F 2 .66 5 Mr 4 .19	3 S 8 .01 4 O 7 .54 6 N 6 .07 7 D 5 .60 35 2 Jr 4 .13 2 F 21 .56 4 Mr 22 .09							
1 S 26 .91 3 O 26 .44 4 N 24 .97 6 D 24 .50 36 1 Jr 23 .03 6 F 9 .93 1 Mr 11 .46								
6 S 15 .27 7 O 14 .80 2 N 13○ .34 3 D 12 .87 37 5 Jr 11 .40 4 Jr 30 .29 5 F 28 .82	3 S 4 .64 5 O 4 .17 6 N 2○ .70 1 D 2 .23 38 2 D 31 .76 3 F 18 .19 4 Mr 19 .72					38 2 D 31 .76 3 F 18 .19 4 Mr 19 .72		
2 S 23 .54 4 O 23○ .07 5 N 21 .60 7 D 21 .13 39 1 Jr 19 .66 7 F 7 .56 2 Mr 8○ .09								
6 S 12 .91 1 O 12● .44 2 N 10 .97 4 D 10 .50 40 6 Jr 9 .03 4 Jr 26 .93 6 F 25○ .46	4 S 1○ .27 7 O 30 .33 1 N 28 .86 7 D 17 .76 42 2 Jr 16 .29 3 F 14○ .82 5 Mr 16 .35	Pausha Kshaya				41 4 Jr 26 .93 6 F 25○ .46		
5 S 30 .80 3 S 20 .17 4 O 19 .70 6 N 18 .23 7 D 17 .76 43 6 Jr 5 .66 7 F 23 .09 1 Mr 23 .62	7 S 9 .54 2 O 9 .07 3 N 7 .60 5 D 7 .13 44 5 Jr 24● .56							
6 S 28 .44 7 O 27 .97 2 N 26 .50 4 D 26○ .03								



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+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	+ 324-83647
+ 9-880	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760	+ 354-36705
						+ 21-736
						+ 23-712

Asvina				Kartika				Margasira				Pausha				A.D.		Magha				A.D.		Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		
3 S	8	16	.80	5 O	16	.33	6 N	14	.86	1 D	14	.39	45	2 Jr	12	.92		4 F	11	.45	5 Mr	12	.98								
1 S	6		.17	2 O	5	.70	4 N	4	.23	5 D	3	.76	46	7 Jr	2	.29		1 Jr	31	.82	3 Mr	2	.35								
7 S	25		.07	1 O	24	.60	3 N	23	.13	4 D	22	.66	47	6 Jr	21	.19		7 F	19	.72	2 Mr	21	.25								
4 S	14		.43	5 O	13	.96	7 N	12	.49	2 D	12	.02	48	3 Jr	10	.55	49	5 F	9	.08	6 Mr	9	.62								
1 S	2		.80	3 O	2	.33	4 O	31	.86	6 N	30	.39		7 D	29	.92			2 Jr	28	.45	3 F	26	.98							
7 S	21		.70	2 O	31	.23	3 N	19	.76	5 D	19	.29	50	6 Jr	17	.82			1 F	16	.35	2 Mr	17	.88							
5 S	11		.07	6 O	10	.60	1 N	9	.13	2 D	8	.66	51	4 Jr	7	.19		5 F	5	.72	7 Mr	7	.25								
3 S	29		.96	5 O	29	.49	7 N	28	.02	1 D	27	.55	52	3 Jr	26	.08		4 F	24	.61	6 Mr	25	.14								
1 S	18		.33	2 O	17	.86	4 N	16	.39	5 D	15	.92	53	7 Jr	14	.45		1 F	12	.98	3 Mr	14	.51								
5 S	7		.70	7 O	7	.23	1 N	5	.76	3 D	5	.29	54	4 Jr	3	.82		6 F	2	.35	7 Mr	3	.88								
4 S	26		.60	6 O	26	.13	7 N	24	.66	2 D	24	.19	55	3 Jr	22	.72		5 F	21	.25	6 Mr	22	.78								
1 S	15		.96	3 O	15	.49	5 N	14	.02	6 D	13	.55	56	1 Jr	12	.08	57	2 F	10	.61	4 Mr	11	.14								
6 S	4		.33	7 O	3	.86	2 N	2	.39	3 D	1	.92		5 D	31	.45			6 Jr	29	.98	1 F	28	.51							
5 S	23		.22	6 O	22	.76	1 N	21	.29	2 D	20	.82	58	4 Jr	19	.35			5 F	17	.88	7 Mr	19	.41							
2 S	12		.59	4 O	12	.12	5 N	10	.65	7 D	10	.18	59	1 Jr	8	.71		3 F	7	.24	4 Mr	8	.77								
6 S	1		.96	3 O	31	.02	4 N	29	.55	6 D	29	.08	60	7 Jr	27	.61		2 F	26	.14	3 Mr	26	.67								
1 O	1		.49															6 F	14	.51	1 Mr	16	.04								
5 S	19		.86	7 O	19	.39	1 N	17	.92	3 D	17	.45	61	4 Jr	15	.98		3 F	3	.87	5 Mr	5	.40								
3 S	9		.22	4 O	8	.75	6 N	7	.28	7 D	6	.81	62	2 Jr	5	.34		2 F	22	.77	4 Mr	24	.30								
2 S	28		.12	3 O	27	.65	5 N	26	.18	6 D	25	.71	63	1 Jr	24	.24															
6 S	17		.49	1 O	17	.02	2 N	15	.55	4 D	15	.08	64	5 Jr	13	.61		7 F	12	.14	1 Mr	12	.67								
3 S	5		.86	5 O	5	.39	6 N	3	.92	1 D	3	.45	65	2 Jr	1	.98		4 Jr	31	.51	6 Mr	2	.04								
2 S	24		.75	4 O	24	.28	5 N	22	.81	7 D	22	.34	66	1 Jr	20	.87		3 F	19	.40	4 Mr	20	.93								
7 S	14		.12	1 O	13	.65	3 N	12	.18	4 D	11	.71	67	6 Jr	10	.24	68	7 F	8	.77	2 Mr	10	.30								
4 S	3		.49	6 O	3	.02	7 N	1	.55	2 D	1	.08		3 D	30	.61			5 Jr	29	.14	6 F	27	.67							
3 S	21		.38	4 O	20	.91	6 N	19	.44	7 D	18	.97	69	2 Jr	17	.50			4 F	16	.03	5 Mr	17	.56							
7 S	10		.75	2 O	10	.28	3 N	8	.81	5 D	8	.34	70	6 Jr	6	.87		1 F	5	.40	2 Mr	6	.93								
6 S	29		.65	1 O	29	.18	2 N	27	.71	4 D	27	.24	71	5 Jr	25	.77		7 F	24	.30	1 Mr	25	.83								
4 S	19		.02	5 O	18	.55	7 N	17	.08	1 D	16	.61	72	3 Jr	15	.14		4 F	13	.67	6 Mr	14	.20								
1 S	7		.38	2 O	6	.91	4 N	5	.44	5 D	4	.97	73	7 Jr	3	.50		2 F	2	.03	3 Mr	3	.56								
7 S	26		.28	1 O	25	.81	3 N	24	.34	4 D	23	.87	74	6 Jr	22	.40		7 F	20	.93	2 Mr	22	.46								
4 S	15		.65	6 O	15	.18	7 N	13	.71	2 D	13	.24	75	3 Jr	11	.77		5 F	10	.30	6 Mr	11	.88								
2 S	5		.01	3 O	4	.54	5 N	3	.07	6 D	2	.60	76	1 Jr	1	.13		2 Jr	30	.66	4 F	29	.19								
7 S	22		.91	2 O	22	.44	3 N	20	.97	5 D	20	.50	77	7 Jr	19	.03		1 F	17	.56	3 Mr	19	.09								
5 S	12		.28	6 O	11	.81	1 N	10	.34	2 D	9	.87	78	4 Jr	8	.40		5 F	5	.93	7 Mr	8	.46								
2 S	1		.65	5 O	30	.71	7 N	29	.24	1 D	28	.77	79	3 Jr	27	.30		4 F	25	.83	6 Mr	27	.36								
4 O	1		.18															2 F	15	.19	3 Mr	15	.72								
1 S	20		.54	3 O	20	.07	4 N	18	.61	6 D	18	.13	80	7 Jr	16	.66		6 F	3	.56	1 Mr	5	.09								
5 S	8		.91	7 O	8	.44	1 N	6	.97	3 D	6	.50	81	5 Jr	5	.03		5 F	22	.46	6 Mr	23	.99								
4 S	27		.81	6 O	27	.34	7 N	25	.87	2 D	25	.40	82	3 Jr	23	.93															
2 S	17		.18	3 O	16	.71	5 N	15	.24	6 D	14	.77	83	1 Jr	13	.80		2 F	11	.83	4 Mr	13	.36								





**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

## Surya Siddhanta.

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	+ 324-88647
+ 9-880	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760	+ 354-36705
						+ 21-736
						+ 23-712

Asvina				Kartika				Margasira				Pausha				A.D.	Magha				A.D.	Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
3 S	24		82	5 O	24		35	6 N	22		88	1 D	22		41	23	2 Jr	20		94		4 F	19		47	6 Mr	21		00
1 S	14		19	2 O	13		72	4 N	12		25	5 D	11		78	24	7 Jr	10		31		1 F	8		84	3 Mr	9		37
5 S	20		55	7 O	2		08	1 O	31		61	3 N	30		15		4 D	29		68	25	6 Jr	28		21	7 F	26		74
4 S	21		45	5 O	21		96	7 N	19		51	2 D	19		04	26	3 Jr	17		57		5 F	16		10	6 Mr	17		63
1 S	10		82	3 O	10		35	4 N	8		88	6 D	8		41	27	7 Jr	6		94		2 F	5		47	4 Mr	7		00
7 S	29		72	2 O	29		25	3 N	27		78	5 D	27		31	28	6 Jr	25		84		1 F	24		37	2 Mr	24		90
5 S	18		08	6 O	17		61	1 N	16		14	2 D	15		67	29	4 Jr	14		21		5 F	12		74	7 Mr	14		27
2 S	7		45	3 O	6		98	5 N	5		51	7 D	5		04	30	1 Jr	3		57		3 F	2		10	4 Mr	3		63
1 S	26		35	2 O	25		88	4 N	24		41	5 D	23		94	31	7 Jr	22		47		2 F	21		00	3 Mr	22		53
5 S	15		71	7 O	15		25	1 N	13		78	3 D	13		31	32	4 Jr	11		84		6 F	10		37	7 Mr	10		90
3 S	4		08	4 O	3		61	6 N	2		14	7 D	1		67		2 D	31		20	33	3 Jr	29		73	5 F	28		27
1 S	22		98	3 O	22		51	5 N	21		04	6 D	20		57	34	1 Jr	19		10		2 F	17		63	4 Mr	19		16
6 S	12		35	7 O	11		88	2 N	10		41	3 D	9		94	35	5 Jr	8		47		7 F	7		00	1 Mr	8		53
5 O	1		24	6 O	30		77	1 N	29		31	2 D	28		84	36	4 Jr	27		37		5 F	25		90	7 Mr	26		43
2 S	19		61	4 O	19		14	5 N	17		67	7 D	17		20	37	1 Jr	15		73		3 F	14		26	4 Mr	15		79
6 S	8		98	1 O	8		51	3 N	7		04	4 D	6		57	38	6 Jr	5		10		7 F	3		63	2 Mr	5		16
5 S	27		88	7 O	27		41	1 N	25		94	3 D	25		47	39	5 Jr	24		00		6 F	22		53	1 Mr	24		06
3 S	17		24	4 O	16		77	6 N	15		30	7 D	14		83	40	2 Jr	13		37		3 F	11		90	5 Jr	12		43
7 S	5		61	2 O	5		14	3 N	3		67	5 D	3		20	41	6 Jr	1		73		1 Jr	30		26	2 Mr	1		79
6 S	24		51	1 O	24		04	2 N	22		57	4 D	22		10	42	5 Jr	20		63		7 F	19		16	1 Mr	20		69
3 S	13		87	5 O	3		41	6 N	11		94	1 D	11		47	43	3 Jr	9		00		4 F	8		53	6 Mr	10		06
1 S	3		24	2 O	2		77	4 N	1		30	5 N	30		83		7 D	30		36	44	1 Jr	28		89	3 F	27		43
7 S	21		14	1 O	20		67	3 N	19		20	4 D	18		73	45	6 Jr	17		26		7 F	15		79	2 Mr	17		32
4 S	10		51	6 O	10		04	7 N	8		57	2 D	8		10	46	3 Jr	6		63		5 F	5		16	6 Mr	6		69
3 S	29		40	4 O	28		93	6 N	27		47	1 D	27		00	47	2 Jr	25		53		4 F	24		06	5 Mr	25		59
7 S	18		77	2 O	18		30	3 N	16		83	5 D	16		36	48	6 Jr	14		89		1 F	13		42	2 Mr	13		95
5 S	7		14	6 O	6		67	1 N	5		20	2 D	4		73	49	4 Jr	3		26		5 F	1		79	7 Mr	3		32
4 S	26		04	5 O	25		57	7 N	24		10	1 D	23		63	50	3 Jr	22		16		4 F	20		69	6 Mr	22		22
1 S	15		40	2 O	14		93	4 N	13		46	5 D	12		99	51	7 Jr	11		53		2 F	10		06	3 Mr	11		59
5 S	4		77	7 O	4		30	1 N	2		83	3 D	2		36		4 D	31		89	52	6 Jr	30		42	7 F	28		95
4 S	22		67	6 O	22		20	7 N	20		73	2 D	20		26	53	3 Jr	18		79		5 F	17		32	6 Mr	18		85
2 S	12		03	3 O	11		57	5 N	10		10	6 D	9		63	54	1 Jr	8		16		2 F	6		69	4 Mr	8		22
7 S	30		93	2 O	30		46	3 N	26		99	5 D	28		52	55	7 Jr	27		05		1 F	25		59	3 Mr	27		12
5 S	20		30	6 O	19		83	1 N	18		36	2 D	17		89	56	4 Jr	16		42		5 F	14		95	7 Mr	15		48
2 S	8		67	4 O	8		20	5 N	6		73	7 D	6		26	57	1 Jr	4		79		3 F	3		32	4 Mr	4		85
1 S	27		56	3 O	27		09	4 N	25		63	6 D	25		16	58	7 Jr	23		69		2 F	22		22	3 Mr	23		75
5 S	16		33	7 O	16		46	1 N	14		99	3 D	14		52	59	5 Jr	13		05		6 F	11		58	1 Mr	13		11
3 S	6		30	4 O	5		83	6 N	4		36	7 D	3		89	60	2 Jr	2		42		3 Jr	31		95	5 Mr	1		48
2 S	24		20	3 O	23		73	5 N	22		26	6 D	21		79	61	1 Jr	20		32		2 F	18		85	4 Mr	20		38





## Surya Siddhanta.

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	+ 324-83647 + 354-86705 + 21-736 + 23-712		
+ 9-880	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760			
Asvina	Kartika	Margasira	Pausa	A.D.	Magha	A.D.	Phalguna	Chaitra
Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction
6 S 13 56 1 O 13 09 2 N 11 62 4 D 11 15 62 5 Jr 9 69 3 S 2 93 5 O 2 46 6 O 31 99 1 N 30 52						63	7 F 8 22 1 Mr 9 75 4 Jr 28 58 6 F 27 11 7 Mr 28 64	
2 S 21 83 4 O 21 36 5 N 19 89 7 D 19 42 64 1 Jr 17 95 7 S 10 19 1 O 9 73 3 N 8 26 4 D 7 79 65 6 Jr 6 32 6 S 29 09 7 O 28 62 2 N 27 15 3 D 26 68 66 5 Jr 25 21							3 F 16 48 5 Mr 17 01 7 F 4 85 2 Mr 6 38 6 F 23 75 1 Mr 25 28	
3 S 18 46 4 O 17 99 6 N 16 52 1 D 16 05 67 2 Jr 14 58 7 S 7 83 2 O 7 36 3 N 5 42 68 6 Jr 3 95 6 S 25 72 1 O 25 25 2 N 23 79 4 D 23 32 69 5 Jr 21 85							4 F 13 11 5 Mr 14 64 1 F 2 48 3 Mr 3 01 7 F 20 38 1 Mr 21 91	
4 S 15 09 5 O 14 62 7 N 13 15 1 D 12 68 70 3 Jr 11 21 1 S 4 46 2 O 3 99 4 N 2 52 6 D 2 05 72 7 D 31 58 7 S 23 36 1 O 22 89 3 N 21 42 4 D 20 95						71	4 F 9 74 6 Mr 11 27 2 Jr 30 11 3 F 28 64 1 F 18 01 2 Mr 18 54	
4 S 11 72 6 O 11 25 7 N 9 78 2 D 9 31 73 3 Jr 7 85 3 S 30 62 5 O 30 15 6 N 28 68 1 D 28 21 74 2 Jr 26 74							5 F 6 38 6 Mr 7 91 4 F 25 27 5 Mr 26 80	
7 S 19 99 2 O 19 52 4 N 18 05 5 D 17 58 75 7 Jr 16 11 5 S 9 35 6 O 8 89 1 N 7 42 2 D 6 95 76 4 Jr 5 48 4 S 27 25 5 O 26 78 7 N 25 31 1 D 24 84 77 3 Jr 23 37							1 F 14 64 3 Mr 16 17 6 F 4 01 7 Mr 4 54 4 F 21 91 6 Mr 23 44	
1 S 16 62 3 O 16 15 4 N 14 68 6 D 14 21 78 7 Jr 12 74 5 S 5 99 7 O 5 52 2 N 4 05 3 D 3 68 79 5 Jr 2 11 4 S 24 88 6 O 24 41 7 N 22 95 2 D 22 48 80 4 Jr 21 01							2 F 11 27 3 Mr 12 80 6 Jr 31 64 1 Mr 2 17 5 F 19 54 7 Mr 20 07	
2 S 13 25 3 O 12 78 5 N 11 31 6 D 10 84 81 1 Jr 9 37 6 S 2 62 2 O 31 68 4 N 30 21 Pausa Kshaya 5 D 29 74 82 5 D 29 74							2 F 7 90 4 Mr 9 43 7 Jr 28 27 1 F 26 80 3 Mr 28 33	
5 S 21 52 7 O 21 05 1 N 19 58 3 D 19 11 83 4 Jr 17 64 2 S 10 88 4 O 10 41 5 N 8 94 7 D 8 47 84 2 Jr 7 01 1 S 28 78 3 O 28 31 4 N 26 84 6 D 26 37 85 7 Jr 24 90							6 F 16 17 7 Mr 17 70 3 F 5 54 5 Mr 6 07 2 F 23 43 3 Mr 24 96	
6 S 18 15 7 O 17 68 2 N 16 21 3 D 15 74 86 5 Jr 14 27 3 S 7 51 5 O 7 05 6 N 5 58 1 D 5 11 87 2 Jr 3 64 2 S 26 41 3 O 25 94 5 N 24 47 7 D 24 00 88 1 Jr 22 53							6 F 12 80 1 Mr 14 33 4 F 2 17 5 Mr 3 70 3 F 21 07 4 Mr 21 60	
6 S 14 78 1 O 14 31 2 N 12 84 4 D 12 37 89 5 Jr 10 90 4 S 4 15 5 O 3 68 7 N 2 21 1 D 1 74 91 3 D 31 27 3 S 23 04 4 O 22 57 6 N 21 11 7 D 20 64						90	7 F 9 43 1 Mr 10 96 4 Jr 29 80 6 F 28 33 3 F 17 70 5 Mr 19 23	
7 S 12 41 1 O 11 94 3 N 10 47 5 D 10 00 92 6 Jr 8 53 6 S 30 31 7 O 29 84 2 N 28 37 3 D 27 90 93 5 Jr 26 43							1 F 7 06 2 Mr 7 59 6 F 24 96 1 Mr 26 49	
3 S 19 68 5 O 19 21 6 N 17 74 1 D 17 27 94 2 Jr 15 80 1 S 9 04 2 O 8 57 4 N 7 10 5 D 6 68 95 7 Jr 5 17 6 S 27 94 1 O 27 47 3 N 26 00 4 D 25 53 96 6 Jr 24 06							4 F 14 33 5 Mr 15 86 1 F 3 70 3 Mr 5 23 7 F 22 59 2 Mr 23 12	
4 S 16 31 5 O 15 84 7 N 14 37 1 D 13 90 97 3 Jr 12 43 1 S 5 67 3 O 5 21 4 N 3 74 6 D 3 27 98 7 Jr 1 80 7 S 24 57 2 O 24 10 3 N 22 63 5 D 22 16 99 6 Jr 20 69							4 F 10 96 6 Mr 12 49 2 Jr 31 33 3 Mr 1 86 1 F 19 23 2 Mr 20 76	
4 S 13 94 6 O 13 47 1 N 12 00 2 D 11 53 17 4 Jr 10 06 00 5 F 8 59 7 Mr 9 12								

TABLE X—

Kaliyuga.	Vikrama Era.	Saka Era.	Com- mence- ment of Solar Year.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	Week day of 1st January.	☉'s Anom col. 6	+ 29-53059	+ 59-06117	+ 88-59176	+ 118-12235													
								☾'s Anom col. 7	+ 1-976	+ 3-952	+ 5-928	+ 7-904													
								Vaisakha	Jyeshtha	Ashada	Shravana	Bhadrapada													
Month and day A.D.	Fraction of day.							Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction						
4801 1757 1622 28M	·8691	9-7848	19-623	1700	2	1	Ap	7	·65	3	My	7	·18	4	Je	5	·71	6	Jl	5	·24	7	Au	30	·78
4802 1758 1623 29M	·1279	28-4237	17-756	1701	4	7	Ap	26	·55	2	My	26	·08	3	Je	24	·61	5	Jl	24	·14	6	Au	22	·67
4803 1759 1624 29M	·3866	17-5320	13-913	1702	5	4	Ap	15	·92	6	My	15	·45	7	Je	13	·98	2	Jl	13	·51	4	Au	12	·04
4804 1760 1625 29M	·6454	6-6403	10-071	1703	6	2	Ap	5	·28	3	My	4	·82	5	Je	30	·35	6	Jl	2	·88	2	Au	30	·94
4805 1761 1626 28M	·9041	25-2792	8-204	1704	1	1	Ap	23	·18	2	My	22	·71	4	Je	21	·24	5	Jl	20	·77	7	Au	19	·31
4806 1762 1627 29M	·1629	14-3875	4-361	1705	2	5	Ap	12	·55	7	My	12	·08	1	Je	10	·61	3	Jl	10	·14	4	Au	8	·67
4807 1763 1628 29M	·4217	3-4958	0-518	1706	3	2	Ap	10	·92	4	My	1	·45	7	Je	29	·51	2	Jl	29	·04	3	Au	27	·57
4808 1764 1629 29M	·6804	22-1347	26-206	1707	4	1	Ap	20	·81	3	My	20	·35	4	Je	18	·88	6	Jl	18	·41	7	Au	16	·94
4809 1765 1630 28M	·9392	11-2430	22-363	1708	5	6	Ap	9	·18	7	My	8	·71	2	Je	7	·24	3	Jl	6	·77	5	Au	5	·30
4810 1766 1631 29M	·1979	0-3513	18-521	1709	7	3	Mr	29	·55	6	My	27	·61	1	Je	26	·14	2	Jl	25	·67	4	Au	24	·20
4811 1767 1632 29M	·4567	18-9902	16-654	1710	1	2	Ap	17	·45	3	My	16	·98	5	Je	15	·51	7	Jl	15	·04	1	Au	13	·57
4812 1768 1633 29M	·7154	8-0984	12-811	1711	2	6	Ap	6	·81	1	My	6	·34	2	Je	4	·87	4	Jl	4	·40	5	Au	2	·94
4813 1769 1634 28M	·9742	26-7373	10-944	1712	3	5	Ap	24	·71	7	My	24	·24	1	Je	22	·77	3	Jl	22	·30	4	Au	20	·83
4814 1770 1635 29M	·2329	15-8456	7-102	1713	5	3	Ap	14	·08	4	My	13	·61	6	Je	12	·14	7	Jl	11	·67	2	Au	10	·20
4815 1771 1636 29M	·4917	4-9539	3-259	1714	6	7	Ap	3	·45	1	My	20	·98	3	Je	1	·51	6	Jl	30	·57	1	Au	29	·10
4816 1772 1637 29M	·7505	23-5928	1-392	1715	7	6	Ap	22	·34	7	My	21	·87	2	Je	20	·40	3	Jl	19	·93	5	Au	18	·47
4817 1773 1638 29M	·0092	12-7011	25-104	1716	1	3	Ap	10	·71	5	My	10	·24	6	Je	8	·77	1	Jl	8	·30	2	Au	6	·83
4818 1774 1639 29M	·2680	1-8094	21-261	1717	3	1	Mr	31	·08	2	Ap	29	·61	5	Je	27	·67	7	Jl	27	·20	1	Au	25	·73
4819 1775 1640 29M	·5267	20-4483	19-395	1718	4	6	Ap	18	·97	1	My	18	·51	3	Je	17	·04	4	Jl	16	·57	6	Au	15	·10
4820 1776 1641 29M	·7855	9-5566	15-552	1719	5	4	Ap	8	·34	5	My	7	·87	7	Je	6	·40	1	Jl	5	·93	3	Au	4	·46
4821 1777 1642 29M	·0442	28-1955	13-685	1720	6	3	Ap	26	·24	4	My	25	·77	6	Je	24	·30	7	Jl	23	·83	2	Au	22	·36
4822 1778 1643 29M	·3030	17-3038	9-842	1721	1	7	Ap	15	·61	2	My	15	·14	3	Je	13	·67	5	Jl	13	·20	6	Au	11	·73
4823 1779 1644 29M	·5618	6-4121	6-000	1722	2	4	Ap	4	·97	6	My	4	·50	1	Je	30	·03	2	Jl	2	·57	5	Au	30	·63
4824 1780 1645 29M	·8205	25-0510	4-133	1723	3	3	Ap	23	·87	5	My	23	·40	6	Je	21	·93	1	Jl	21	·46	2	Au	19	·99
4825 1781 1646 29M	·0793	14-1593	0-290	1724	4	1	Ap	12	·24	2	My	11	·77	4	Je	10	·30	5	Jl	9	·83	7	Au	8	·36
4826 1782 1647 29M	·3380	3-2676	24-002	1725	6	5	Ap	10	·61	7	My	1	·14	3	Je	29	·20	4	Jl	28	·73	6	Au	27	·26
4827 1783 1648 29M	·5968	21-9065	22-135	1726	7	4	Ap	20	·50	6	My	20	·03	7	Je	18	·56	2	Jl	18	·09	3	Au	16	·63
4828 1784 1649 29M	·8556	11-0148	18-292	1727	1	1	Ap	9	·87	3	My	9	·40	4	Je	7	·93	6	Jl	7	·46	7	Au	5	·99
4829 1785 1650 29M	·1143	0-1231	14-450	1728	2	6	Mr	29	·24	2	My	27	·30	3	Je	25	·83	5	Jl	25	·36	6	Au	23	·89
4830 1786 1651 29M	·3731	18-7619	12-583	1729	4	5	Ap	17	·13	6	My	16	·66	1	Je	15	·20	2	Jl	14	·73	4	Au	13	·26
4831 1787 1652 29M	·6318	7-8702	8-743	1730	5	2	Ap	6	·50	4	My	6	·03	5	Je	4	·56	7	Jl	4	·09	1	Au	2	·62
4832 1788 1653 29M	·8906	26-5091	6-873	1731	6	1	Ap	25	·40	2	My	24	·93	4	Je	23	·46	5	Jl	22	·99	7	Au	21	·52
4833 1789 1654 29M	·1493	15-6174	3-031	1732	7	5	Ap	13	·77	7	My	13	·30	1	Je	11	·88	3	Jl	11	·36	4	Au	9	·89
4834 1790 1655 29M	·4081	4-7217	26-742	1733	2	3	Ap	3	·13	4	My	20	·66	6	Je	1	·19	2	Jl	30	·26	3	Au	28	·72
4835 1791 1656 29M	·6668	23-3646	24-876	1734	3	2	Ap	22	·03	3	My	21	·56	5	Je	20	·09	6	Jl	19	·62	1	Au	18	·15
4836 1792 1657 29M	·9256	12-4729	21-033	1735	4	6	Ap	11	·40	7	My	10	·93	2	Je	9	·46	3	Jl	8	·99	5	Au	7	·52
4837 1793 1658 29M	·1843	1-5812	17-190	1736	5	3	Mr	30	·76	5	Ap	29	·30	1	Je	27	·36	2	Jl	26	·89	4	Au	25	·42
4838 1794 1659 29M	·4431	20-2201	15-323	1737	7	2	Ap	18	·66	4	My	18	·19	5	Je	16	·72	7	Jl	16	·25	1	Au	14	·78
4839 1795 1660 29M	·7019	9-3284	11-481	1738	1	7	Ap	8	·03	1	My	7	·56	3	Je	6	·09	4	Jl	5	·62	6	Au	4	·15

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.	11	39	44			89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.	-	18	15			(☉'s Yoga Eqn.) +	1	25			
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

## Surya Siddhanta.

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	+ 324-83647
+ 9-880	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760	+ 354-36705
						+ 21-736
						+ 23-712

Asvina	Kartika	Margasira	A.D.	Pausha	A.D.	Magha	Phalguna	Chaitra
Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction
6 S 21 .58 1 O 21 .11 2 N 19 .64	4 D 19 .17 40	5 Jr 17 .70 7 F 16 .23 1 Mr 16 .76						
3 S 9 .95 5 O 9 .48 7 N 8 .01	1 D 7 .54 41	3 Jr 6 .07 4 F 4 .60 6 Mr 6 .13						
2 S 28 .84 4 O 28 .38 5 N 26 .91	7 D 26 .44 42	1 Jr 24 .97 3 F 23 .50 5 Mr 25 .03						
7 S 18 .21 1 O 17 .74 3 N 16 .27	4 D 15 .80 43	6 Jr 14 .33 7 F 12 .86 2 Mr 14 .40						
4 S 7 .58 6 O 7 .11 7 N 5 .64	2 D 5 .17 44	3 Jr 3 .70 5 F 2 .23 6 Mr 2 .76						
3 S 25 .48 5 O 25 .01 6 N 23 .54	1 D 23 .07 45	2 Jr 21 .60 4 F 20 .13 5 Mr 21 .66						
7 S 14 .84 2 O 14 .37 3 N 12 .91	5 D 12 .44 46	6 Jr 10 .97 1 F 9 .50 3 Mr 11 .03						
5 S 4 .21 6 O 3 .74 1 N 2 .27	2 D 1 .80 47	4 D 31 .33 47 5 Jr 29 .86 7 F 28 .39						
4 S 23 .11 5 O 22 .64 7 N 21 .17	1 D 20 .70 48	3 Jr 19 .23 4 F 17 .76 6 Mr 18 .29						
1 S 11 .48 3 O 11 .01 4 N 9 .54	6 D 9 .07 49	7 Jr 7 .60 2 F 6 .13 3 Mr 7 .66						
7 S 30 .37 1 O 29 .90 3 N 28 .43	4 D 27 .96 50	6 Jr 26 .50 1 F 25 .03 2 Mr 26 .56						
4 S 19 .74 6 O 19 .27 7 N 17 .80	2 D 17 .33 51	3 Jr 15 .86 5 F 14 .39 6 Mr 15 .92						
2 S 9 .11 3 O 8 .64 5 N 7 .17	6 D 6 .70 52	1 Jr 5 .23 2 F 3 .76 4 Mr 4 .29						
1 O* 8 .00 2 N 6 .54 4 D 6 .07 53	5 Jr 4 .60 53	7 F 3 .13 1 Mr 4 .66 3 Ap 30 .19						
5 S 27 .37 6 O 26 .90 1 N 25 .43	2 D 24 .96 54	4 Jr 23 .49 6 F 22 .02 7 Mr 23 .56						
2 S 16 .74 4 O 16 .27 5 N 14 .80	7 D 14 .33 55	1 Jr 12 .86 3 F 11 .39 4 Mr 12 .92						
1 O 5 .64 3 N 4 .17 4 D 3 .70 56	6 Jr 2 .23 56	7 Jr 31 .76 2 Mr 1 .29 3 Mr 30 .82						
6 S 24 .00 7 O 23 .53 2 N 22 .06	3 D 21 .60 57	5 Jr 20 .13 6 F 18 .66 1 Mr 20 .19						
3 S 13 .37 6 N 11 .43 7 D 10 .96	2 Jr 9 .49 58	4 F 8 .02 5 Mr 9 .55 7 Ap 8 .08						
4 O 12 .90 3 O 31 .80 5 N 30 .33	6 D 29 .86 59	1 Jr 28 .39 2 F 26 .92 4 Mr 28 .45						
2 O 2 .27 1 O 21 .17 2 N 19 .70	4 D 19 .23 60	5 Jr 17 .76 7 F 16 .29 1 Mr 16 .82						
6 S 21 .64 1 O 21 .06 1 D 7 .59 61	3 Jr 6 .12 61	4 F 4 .66 6 Mr 6 .19 7 Ap 4 .72						
2 S 28 .90 4 O 28 .43 5 N 26 .96	7 D 26 .49 62	2 Jr 25 .02 3 F 23 .55 5 Mr 25 .08						
7 S 18 .27 1 O 17 .80 3 N 16 .33	4 D 15 .86 63	6 Jr 14 .39 7 F 12 .92 2 Mr 14 .45						
6 O 7 .16 7 N 5 .70 2 D 5 .23 64	3 Jr 3 .76 64	5 F 2 .29 6 Mr 20 .82 1 Ap 1 .35						
3 S 25 .53 5 O 25 .06 6 N 23 .59	1 D 23 .12 65	2 Jr 21 .65 4 F 20 .18 5 Mr 21 .72						
7 S 14 .90 2 O 14 .43 3 N 12 .96	5 D 12 .49 66	7 Jr 11 .02 1 F 9 .55 3 Mr 11 .08						
6 O 3 .80 1 N 2 .33 2 D 1 .86	4 D 31 .39 67	5 Jr 29 .92 7 F 28 .45 1 Mr 29 .98						
4 S 23 .16 5 O 22 .69 1 N 21 .22	1 D 20 .76 68	3 Jr 19 .29 4 F 17 .82 6 Mr 18 .35						
3 O 11 .06 4 N 9 .59 6 D 9 .12 69	7 Jr 7 .65 69	2 F 6 .18 3 Mr 7 .71 5 Ap 6 .24						
7 S 30 .43 1 O 29 .96 3 N 28 .49	5 D 28 .02 70	6 Jr 26 .55 1 F 25 .08 2 Mr 26 .61						
4 S 19 .80 6 O 19 .33 7 N 17 .86	2 D 17 .39 71	3 Jr 15 .92 5 F 14 .45 6 Mr 15 .98						
3 O 8 .69 5 N 7 .22 6 D 6 .75 72	1 Jr 5 .23 72	2 F 3 .82 4 Mr 4 .35 5 Ap 2 .88						
1 S 27 .06 2 O 26 .59 4 N 25 .12	5 D 24 .65 73	7 Jr 23 .18 1 F 21 .71 3 Mr 23 .24						
6 S 16 .43 6 O 15 .96 1 N 14 .49	3 D 14 .02 74	4 Jr 12 .55 6 F 11 .08 7 Mr 12 .61						
4 O 5 .32 5 N 3 .86 7 D 3 .39 75	1 Jr 1 .92 75	3 Jr 31 .45 4 Mr 1 .98 6 Mr 31 .51						
1 S 24 .69 3 O 24 .22 4 N 22 .75	6 D 22 .28 76	7 Jr 20 .81 2 F 19 .34 3 Mr 19 .88						
7 O 12 .59 2 N 11 .12 3 D 10 .65 77	5 Jr 9 .18 77	6 F 7 .71 1 Mr 9 .24 2 Ap 7 .77						
4 O 1 .96 6 O 31 .49 1 N 30 .02	2 D 29 .55 78	4 Jr 28 .08 5 F 26 .61 7 Mr 28 .14						
2 S 21 .32 3 O 20 .85 5 N 19 .38	6 D 18 .92 79	1 Jr 17 .45 2 F 15 .98 4 Mr 17 .51						
1 O 10 .22 2 N 8 .75 4 D 8 .28 80	5 Jr 6 .81 80	7 F 5 .34 1 Mr 5 .87 3 Ap 4 .40						

\* In this year A.D. 1752, the New Style was introduced by an Act of the British Parliament and 11 days were dropped out, that is, the next day after Wednesday, 2 September 1752 was declared to be Thursday, 14 September 1752. Hence the New-Moon after 28 August 1752 which would ordinarily have occurred on 26 September 1752 actually occurred on 8 October 1752.

**TABLE X--**

Kalyuga.			Vikrama Era.			Saka Era.			Com- mence- ment of Solar Year.			First New-Moon in Solar Year.			Anomaly of first New-Moon.			A.D.			Week-day of 1st January.			Vaisakha				Jyeshtha				Ashada				Sravana				Bhadrapada																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.





## Surya Siddhanta.

+ 147-65293				+ 177-18353				+ 206-71411				+ 236-24470				+ 265-77529				+ 295-30588				+ 324-83647					
+ 9-880				+ 11-856				+ 13-832				+ 15-808				+ 17-784				+ 19-760				+ 354-36705					
																								+ 21-736					
																								+ 23-712					
Asvina				Kartika				Margasira				A.D.	Pausha				A.D.	Magha				Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
1 S	19	0	.33	2 O	18	.86		4 N	17	.89		21	5 D	16	.92		20	7 Jr	15	.45	1 F	13	.98	3 Mr	14	0	.52		
7 O	7		.23	1 N	5	.76		3 D	5	.29			4 Jr	3	.82			6 F	2	.35	7 Mr	3	.88	2 Ap	2		.41		
4 S	26		.60	6 O	26	.13		7 N	24	.66			2 D	24	.19		22	3 Jr	22	.72	5 F	21	.25	6 Mr	22		.78		
1 S	15		.96	5 N	14	.02		6 D	13	.56			Pausha Kshaya				23	1 Jr	12	.09	2 F	10	.62	4 Mr	12		.15		
3 O	15		.49									24	5 Jr	10	.45			6 Jr	30	.98	1 F	29	.51	3 Mr	30		.04		
7 O	4		.86	2 N	3	.39		3 D	2	.92			2 D	20	.82		25	4 Jr	19	.35	5 F	17	.88	7 Mr	19		.41		
5 S	23		.23	6 O	22	.76		1 N	21	.29		26	1 Jr	8	.72			3 F	7	.25	4 Mr	8	.78	6 Ap	7		.31		
4 O	12		.13	5 N	10	.66		7 D	10	.19																			
1 O	1		.49	3 O	31	.02		4 N	29	.55			6 D	29	.08		27	7 Jr	27	.62	2 F	26	.15	3 Mr	27		.68		
5 S	20		.86	7 O	20	.39		1 N	18	.92		29	3 D	18	.45		28	4 Jr	16	.98	6 F	15	.51	1 Mr	16		.04		
4 O	8		.76	6 N	7	.29		7 D	6	.82			2 Jr	5	.35			3 F	3	.88	5 Mr	5	.41	6 Ap	3		.94		
2 S	8		.12	3 O	27	.66		5 N	26	.19			6 D	25	.72		30	1 Jr	24	.25	2 F	22	.78	4 Mr	24		.31		
6 S	17		.49	1 O	17	.02		2 N	15	.55		32	4 D	15	.08		31	5 Jr	13	.61	7 F	12	.14	1 Mr	13		.68		
5 O	6		.39	6 N	4	.92		1 D	4	.45			2 Jr	2	.98			4 F	1	.51	6 Mr	2	.04	7 Mr	31		.57		
2 S	24		.76	4 O	24	.29		5 N	22	.82		34	7 D	22	.35		33	1 Jr	20	.88	3 F	19	.41	4 Mr	20		.94		
1 O	13		.65	3 N	12	.18		4 D	11	.72			6 Jr	10	.25			7 F	8	.78	2 Mr	10	.31	3 Ap	8		.84		
6 O	3		.02	7 N	1	.55		2 D	10	.08			3 D	30	.61		35	5 Jr	29	.14	6 F	27	.67	1 Mr	29		.20		
3 S	22		.39	4 O	21	.92		6 N	20	.45			7 D	19	.98		36	2 Jr	18	.51	4 F	17	.04	5 Mr	17		.57		
2 O	10		.29	3 N	8	.82		5 D	8	.35		37	6 Jr	6	.88			1 F	5	.41	2 Mr	6	.94	4 Ap	5		.47		
6 S	29		.65	1 O	29	.18		2 N	27	.71			4 D	27	.24		38	5 Jr	25	.78	7 F	24	.31	1 Mr	25		.84		
4 S	19		.02	5 O	18	.55		7 N	17	.08		40	1 D	16	.61		39	3 Jr	15	.14	4 F	13	.67	6 Mr	15		.20		
2 O	7		.92	4 N	6	.45		5 D	5	.98			7 Jr	4	.51			2 F	30	.04	3 Mr	3	.57	5 Ap	2		.10		
7 S	26		.28	1 O	25	.82		3 N	24	.35		42	4 D	23	.88		41	6 Jr	22	.41	7 F	20	.94	2 Mr	22		.47		
4 S	15		.65	7 N	13	.71		2 D	13	.24			3 Jr	11	.77			5 F	10	.30	6 Mr	11	.54	1 Ap	10		.37		
6 O	15		.18									43	1 Jr	1	.14			2 Jr	30	.67	4 Mr	1	.20	5 Mr	30		.73		
3 O	4		.55	5 N	3	.08		6 D	2	.61			5 D	21	.51		44	7 Jr	20	.04	1 F	18	.57	3 Mr	19		.10		
7 S	23		.92	2 O	23	.45		3 N	21	.98		45	4 Jr	8	.41			5 F	6	.94	7 Mr	8	.47	2 Ap	7		.00		
6 O	11		.81	1 N	10	.34		2 D	9	.88																			
4 O	1		.18	5 O	30	.71		7 N	29	.24			1 D	28	.77		46	3 Jr	27	.30	4 F	25	.83	6 Mr	27		.36		
1 S	20		.55	3 O	20	.08		4 N	18	.61		48	6 D	18	.14		47	7 Jr	16	.67	2 F	15	.20	3 Mr	16		.73		
7 O	9		.45	1 N	7	.98		3 D	7	.51			5 Jr	6	.04			6 F	4	.57	1 Mr	5	.10	2 Ap	3		.63		
4 S	27		.81	6 O	27	.34		7 N	25	.87			2 D	25	.40		49	3 Jr	23	.94	5 F	22	.47	7 Mr	24		.00		
2 S	17		.18	3 O	16	.71		5 N	15	.24		51	6 D	14	.77		50	1 Jr	13	.30	2 F	11	.83	4 Mr	13		.36		
1 O	6		.08	2 N	4	.61		4 D	4	.14			5 Jr	20	.67			7 F	1	.20	1 Mr	2	.73	3 Ap	1		.26		
5 S	25		.44	6 O	24	.98		1 N	23	.51		53	3 D	23	.04		52	4 Jr	21	.57	6 F	20	.10	7 Mr	20		.63		
4 O	13		.34	5 N	11	.87		7 D	11	.40			1 Jr	9	.93			3 F	8	.46	5 Mr	10	.00	6 Ap	8		.53		
1 O	2		.71	3 N	1	.24		4 N	30	.77			6 D	30	.30		54	7 Jr	28	.83	2 F	27	.36	3 Mr	28		.89		
6 S	22		.08	7 O	21	.61		2 N	20	.14		56	3 D	19	.67		55	5 Jr	18	.20	6 F	16	.73	1 Mr	18		.26		
4 O	10		.97	6 N	9	.50		1 D	9	.04			2 Jr	7	.57			4 F	6	.10	5 Mr	6	.63	7 Ap	5		.16		
2 S	29		.34	3 O	28	.87		5 N	27	.40			6 D	26	.93		57	1 Jr	25	.46	2 F	23	.99	4 Mr	25		.52		
6 S	18		.71	1 O	18	.24		2 N	16	.77		59	4 D	16	.30		58	5 Jr	14	.83	7 F	13	.36	1 Mr	14		.89		
5 O	7		.61	7 N	6	.14		1 D	5	.67			3 Jr	4	.20			4 F	20	.73	6 Mr	4	.26	7 Ap	2		.79		

TABLE X—

Kaliyuga.	Vikrama Era.	Saka Era.	Com- mence- ment of Solar Year.	First New-Moon in Solar Year.		Anomaly of first New-Moon.		☉'s Anom col. 6		☉'s Anom col. 7		+ 29°53059		+ 59°06117		+ 88°59176		+ 118°12235				
				A.D.	Vaisakha	Jyeshtha	Ashada	Shravana	Bhadrapada													
Month and day A. D.	Fraction of day.	Week-day of 1st January.	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
4960 1916 1781 12A	0114	20-3090	21-195	1859	7	2 My	3	32	3 My	31	85	5 Je	30	38	6 Jl	29	91	1 Au	28	44		
4961 1917 1782 11A	2702	9-4173	17-352	1860	1	6 Ap	20	69	1 My	20	22	2 Je	18	75	4 Jl	18	28	5 Au	16	81		
4962 1918 1783 11A	5289	28-0562	15-487	1861	3	5 My	9	58	7 Je	8	12	1 Jl	7	65	3 Au	6	18	4 S	4	71		
4963 1919 1784 11A	7877	17-1645	11-643	1862	4	2 Ap	28	95	4 My	28	48	6 Je	27	01	7 Jl	26	54	2 Au	25	07		
4964 1920 1785 12A	0464	6-2728	7-800	1863	5	7 Ap	18	32	1 My	17	85	3 Je	16	38	4 Jl	15	91	7 S	12	97		
4965 1921 1786 11A	3052	24-9117	5-933	1864	6	6 My	6	22	7 Je	4	75	2 Jl	4	28	3 Au	2	81	5 S	1	34		
4966 1922 1787 11A	5639	14-0200	2-091	1865	1	3 Ap	25	58	5 My	25	11	6 Je	23	64	1 Jl	23	18	2 Au	21	71		
4967 1923 1788 11A	8227	3-1283	25-803	1866	2	7 Ap	14	95	2 My	14	48	5 Jl	12	54	7 Au	11	07	1 S	9	60		
4968 1924 1789 12A	0814	21-7672	23-936	1867	3	6 My	3	85	1 Je	2	38	2 Jl	1	91	4 Jl	31	44	5 Au	29	97		
4969 1925 1790 11A	3402	10-8755	20-093	1868	4	4 Ap	22	22	5 My	21	75	7 Je	20	28	1 Jl	19	81	3 Au	18	34		
4970 1926 1791 11A	5990	29-5144	16-250	1869	6	1 Ap	11	58	4 Je	9	64	6 Jl	9	17	7 Au	7	70	2 S	6	24		
4971 1927 1792 11A	8577	18-6227	14-384	1870	7	7 Ap	30	48	2 My	30	01	3 Je	28	54	5 Jl	28	07	6 Au	26	60		
4972 1928 1793 12A	1165	7-7310	10-541	1871	1	4 Ap	19	85	6 My	19	38	7 Je	17	91	2 Jl	17	44	3 Au	15	97		
4973 1929 1794 11A	3752	26-3698	8-674	1872	2	3 My	7	74	5 Je	6	28	6 Jl	5	81	1 Au	4	34	2 S	2	37		
4974 1930 1795 11A	6340	15-4781	4-831	1873	4	1 Ap	27	11	2 My	26	64	4 Je	25	17	5 Jl	24	70	7 Au	23	23		
4975 1931 1796 11A	8927	4-5864	0-989	1874	5	5 Ap	16	48	7 My	16	01	1 Je	14	54	4 Au	12	60	6 S	11	13		
4976 1932 1797 12A	1515	23-2254	26-676	1875	6	4 My	5	38	5 Je	3	91	7 Jl	3	44	1 Au	1	97	3 Au	31	50		
4977 1933 1798 11A	4103	12-3336	22-834	1876	7	1 Ap	23	74	3 My	23	27	4 Je	21	80	6 Jl	21	34	7 Au	19	87		
4978 1934 1799 11A	6690	1-4419	18-991	1877	2	6 Ap	13	11	7 My	12	64	3 Jl	10	70	5 Au	9	23	6 S	7	76		
4979 1935 1800 11A	9278	20-0808	17-124	1878	3	5 My	2	01	6 My	31	54	1 Je	30	07	2 Jl	29	60	4 Au	28	13		
4980 1936 1801 12A	1865	9-1891	13-281	1879	4	2 Ap	21	38	3 My	20	91	5 Je	19	44	6 Jl	18	97	1 Au	17	50		
4981 1937 1802 11A	4453	27-8280	11-415	1880	5	1 My	9	27	2 Je	7	80	4 Jl	7	33	5 Au	5	86	7 S	4	40		
4982 1938 1803 11A	7040	16-9363	7-572	1881	7	5 Ap	28	64	7 My	28	17	1 Je	26	70	3 Jl	26	23	4 Au	24	76		
4983 1939 1804 11A	9628	6-0446	3-729	1882	1	3 Ap	18	01	4 My	17	54	6 Je	16	07	7 Jl	15	60	3 S	12	66		
4984 1940 1805 12A	2216	24-6835	1-862	1883	2	1 My	6	90	3 Je	5	44	4 Jl	4	97	6 Au	3	50	1 S	2	03		
4985 1941 1806 11A	4803	13-7918	25-574	1884	3	6 Ap	25	27	7 My	24	80	2 Je	23	33	3 Jl	22	86	5 Au	21	39		
4986 1942 1807 11A	7391	2-9008	21-732	1885	5	3 Ap	14	64	5 My	14	17	1 Jl	12	23	2 Au	10	76	4 S	9	29		
4987 1943 1808 11A	9978	21-5390	19-865	1886	6	2 My	3	54	4 Je	2	07	5 Jl	1	60	7 Jl	31	13	1 Au	29	66		
4988 1944 1809 12A	2566	10-6473	16-022	1887	7	6 Ap	22	90	1 My	22	43	2 Je	20	96	4 Jl	20	50	6 Au	19	03		
4989 1945 1810 11A	5153	29-2862	14-155	1888	1	5 My	10	80	7 Je	9	33	1 Jl	8	86	3 Au	7	39	4 S	5	92		
4990 1946 1811 11A	7741	18-3945	10-313	1889	3	3 Ap	30	17	4 My	29	70	6 Je	28	23	7 Jl	27	76	2 Au	26	29		
4991 1947 1812 12A	0328	7-5028	6-470	1890	4	7 Ap	19	54	2 My	19	07	3 Je	17	60	5 Jl	17	13	6 Au	15	66		
4992 1948 1813 12A	2916	26-1416	4-603	1891	5	6 My	8	43	7 Je	6	96	2 Jl	6	49	4 Au	5	02	5 S	3	55		
4993 1949 1814 11A	5504	15-2499	0-760	1892	6	3 Ap	26	80	5 My	26	33	6 Je	24	86	1 Jl	24	39	2 Au	22	92		
4994 1950 1815 11A	8091	4-3582	24-472	1893	1	1 Ap	16	17	2 My	15	70	4 Je	14	23	7 Au	12	29	1 S	10	82		
4995 1951 1816 12A	0679	22-9971	22-605	1894	2	7 My	5	06	1 Je	3	59	3 Jl	3	13	4 Au	1	66	6 Au	31	19		
4996 1952 1817 12A	3266	12-1054	18-763	1895	3	4 Ap	24	43	5 My	23	96	7 Je	22	49	2 Jl	22	02	3 Au	20	55		
4997 1953 1818 11A	5854	1-2137	14-920	1896	4	1 Ap	12	80	3 My	12	33	6 Jl	10	39	7 Au	8	92	2 S	7	45		
4998 1954 1819 11A	8441	19-8526	13-053	1897	6	7 My	1	70	2 My	31	23	3 Je	29	76	5 Jl	29	29	6 Au	27	82		

## Burya Siddhanta.

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	+ 324-83647		
+ 9-880	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760	+ 354-36705		
						+ 21-736		
						+ 23-712		
Asvina	Kartika	Margasira	A.D.	Pausha	A.D.	Magha	Phalguna	Chaitra
Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction
2 S 26 .97 4 O 26 .50 6 N 25 .03	7 S 15 .34 3 N 13 .40 4 D 12 .93		7 D 24 .56	60	2 Jr 23 O .10	3 F 21 .63	5 Mr 22 .16	
7 S 15 .34 3 N 13 .40 4 D 12 .93		61	6 Jr 11 .46		7 F 9 .99	2 Mr 11 .52	4 Ap 10 .05	
1 O 14 .87	2 77 2 D 20 .30		3 D 31 .83	62	5 Jr 30 .36	6 F 28 .89	1 Mr 30 .42	
6 O 4 .24 7 N 23 .14 6 N 21 O .67			1 D 21 .20	63	2 Jr 19 .73	4 F 18 .26	5 Mr 19 .79	
3 S 23 .60 5 O 23 .14 6 N 21 O .67		64	7 Jr 9 .09		1 F 7 .62	3 Mr 8 .16	4 Ap 6 .69	
2 O 12 .50 4 N 11 O .03 5 D 10 .56								
6 S 30 .87 1 O 30 .40 2 N 28 .93			4 D 28 .46	65	5 Jr 26 .99	7 F 25 .52	2 Mr 27 O .05	
4 S 20 O .24 5 O 19 .77 7 N 18 .30		67	1 D 17 .83	66	3 Jr 16 .36	4 F 14 .89	6 Mr 16 O .42	
3 O 9 .13 4 N 7 .66 6 D 7 .20			7 Jr 5 .73		2 F 4 .26	3 Mr 5 O .79	5 Ap 4 .32	
7 S 28 .50 2 O 28 .03 3 N 26 .56			5 D 26 .09	68	6 Jr 24 .62	1 F 23 .15	2 Mr 23 .69	
4 S 16 .87 6 O 16 .40 7 N 14 .93		70	2 D 14 .46	69	3 Jr 12 O .99	5 F 11 .52	7 Mr 13 .05	
3 O 5 .77 5 N 4 .30 6 D 3 .83			1 Jr 2 O .36		2 Jr 31 .89	4 Mr 2 .42	5 Mr 31 .95	
1 S 25 .13 2 O 24 .66 4 N 23 .19		72	5 D 22 O .72	71	7 Jr 21 .26	1 F 19 .79	3 Mr 21 .32	
7 O 14 .03 1 N 12 .56 3 D 12 .09			4 Jr 10 .62		6 F 9 .15	7 Mr 9 .68	2 Ap 8 .21	
4 O 2 .40 5 O 31 O .93 7 N 30 .46			1 D 29 .99	73	3 Jr 28 .52	5 F 27 .05	6 Mr 28 .58	
1 S 21 .76 3 O 21 O .30 4 N 19 .83			6 D 19 .36	74	7 Jr 17 .89	2 F 16 .42	3 Mr 17 .95	
7 O 10 O .66 2 N 9 .19 3 D 8 .72		75	5 Jr 7 .25		6 F 5 .78	1 Mr 7 .31	2 Ap 5 .85	
5 S 30 .03 6 O 29 .56 1 N 28 .09			2 D 27 .62	76	4 Jr 26 .15	5 F 24 O .68	7 Mr 25 .21	
2 S 18 .40 3 O 17 .93 5 N 16 .46			6 D 15 .99	77	1 Jr 14 .52	3 F 13 O .05	4 Mr 14 .58	
1 O 7 .29 2 N 5 .82 4 D 5 .36		78	5 Jr 3 .89		7 F 2 O .42	1 Mr 3 .95	3 Ap 3 .48	
5 S 26 .66 7 O 26 .19 1 N 24 .72			3 D 24 .25	79	4 Jr 22 .78	6 F 21 .31	7 Mr 22 .84	
3 S 16 .03 6 N 14 .09 7 D 13 O .62		80	2 Jr 12 .15		3 F 10 .68	5 Mr 11 .21	6 Ap 9 .74	
4 O 15 .56			6 D 31 .52	81	1 Jr 30 .05	2 F 28 .58	4 Mr 30 .11	
1 O 3 .93 3 N 2 .46 4 D 1 O .99			3 D 20 .88	82	5 Jr 19 .42	6 F 17 .95	1 Mr 19 .48	
6 S 23 .29 7 O 22 .82 2 N 21 O .35		83	2 Jr 8 .78		4 F 7 .31	5 Mr 8 .84	7 Ap 7 O .37	
5 O 12 .19 6 N 10 .72 1 D 10 .25			7 D 29 .15	84	1 Jr 27 .68	3 F 26 .21	4 Mr 26 O .74	
2 O 1 O .56 4 O 31 .09 5 N 29 .62			4 D 17 .52	85	6 Jr 16 .05	7 F 14 .58	2 Mr 16 O .11	
6 S 19 O .92 1 O 19 .46 2 N 17 .99		86	3 Jr 5 .41		4 F 3 .94	6 Mr 5 .48	1 Ap 4 .01	
5 O 8 .82 7 N 7 .35 1 D 6 .88			7 D 25 .78	87	2 Jr 24 O .31	3 F 22 .84	5 Mr 24 .37	
3 S 28 .19 4 O 27 .72 6 N 26 .25			5 D 15 .15	88	6 Jr 13 O .68	1 F 12 .21	2 Mr 12 .74	
7 S 17 .56 2 O 17 .09 3 N 15 .62			4 Jr 2 O .05		5 Jr 31 .58	7 Mr 2 .11	1 Mr 31 .64	
6 O 5 .45 7 N 3 .98 2 D 3 .52		89	1 D 22 .41	90	2 Jr 20 .94	4 F 19 .47	6 Mr 21 .00	
3 S 24 .82 5 O 24 .35 6 N 22 .88		91	7 Jr 10 .31		1 F 8 .84	3 Mr 10 .37	4 Ap 8 .90	
2 O 13 .72 4 N 12 O .25 5 D 11 .78			4 D 30 .68	92	6 Jr 29 .21	7 F 27 .74	2 Mr 28 .27	
7 O 3 .09 1 N 1 O .62 3 D 1 .15			2 D 19 .04	93	3 Jr 17 .57	5 F 16 .11	6 Mr 17 .64	
4 S 21 .45 5 O 20 O .98 7 N 19 .51		94	7 Jr 6 .94		2 F 5 .47	4 Mr 7 O .00	5 Ap 5 .53	
3 O 10 .35 4 N 8 .88 6 D 8 .41			5 D 27 .31	95	6 Jr 25 .84	1 F 24 O .37	2 Mr 25 .90	
7 S 29 .72 2 O 29 .25 3 N 27 .78			2 D 16 .68	96	4 Jr 15 .21	5 F 13 O .74	7 Mr 14 .27	
5 S 19 .08 6 O 18 .61 1 N 17 .15		97	1 Jr 3 .57		3 F 2 .10	4 Mr 3 .63	6 Ap 2 .17	
3 O 6 .98 5 N 5 .51 7 D 5 .04			5 D 23 O .94	98	7 Jr 22 .47	2 F 21 .00	3 Mr 22 .53	
1 S 26 .35 2 O 25 .88 4 N 24 .41								



## Surya Siddhanta.

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	+ 324-33647
+ 9880	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760	+ 354-36705
						+ 21-736
						+ 23-712

Asvina				Kartika				Margasira				A.D.	Pausha				A.D.	Magha				Phalguna				Chaitra			
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction
5 S	15	72	1 N	13	78	3 D	130	31	99	4 Jr	11	84		6 F	10	37	7 Mr	11	90	2 Ap	10	43							
7 O	15	25											2 Jr	1	21	00	3 Jr	30	74	5 Mr	1	27	6 Mr	30	80				
4 O	4	61	6 N	3	14	7 D	20	67	19	6 D	21	57	01	1 Jr	20	10	2 F	18	63	4 Mr	20	16							
1 S	23	98	3 O	23	51	5 N	22	04		5 Jr	9	47		7 F	8	00	1 Mr	9	53	3 Ap	80	06							
7 O	120	88	2 N	11	41	3 D	10	94	02																				
5 O	20	25	6 O	31	78	1 N	30	31		2 D	29	84	03	4 Jr	28	37	5 F	26	90	7 Mr	280	43							
2 S	21	61	4 O	21	14	5 N	19	67		7 D	19	20	04	1 Jr	17	73	3 F	16	27	4 Mr	16	80							
1 O	9	51	3 N	8	04	4 D	7	57	05	6 Jr	6	10		7 F	40	63	2 Mr	6	16	3 Ap	4	69							
5 S	28	88	7 O	28	41	1 N	26	94		3 D	26	47	06	5 Jr	250	00	6 F	23	53	1 Mr	25	06							
3 S	18	24	4 O	17	77	6 N	16	31		7 D	15	84	07	2 Jr	140	37	3 F	12	90	5 Mr	14	43							
2 O	7	14	3 N	5	67	5 D	5	20	08	6 Jr	3	73		1 F	2	26	2 Mr	2	79	4 Ap	1	33							
6 S	25	51	1 O	25	04	2 N	23	57		4 D	23	10	09	5 Jr	21	63	7 F	20	16	1 Mr	21	69							
5 O	14	41	6 N	120	94	1 D	12	47	10	3 Jr	11	00		4 F	9	53	6 Mr	11	06	7 Ap	9	59							
2 O	3	77	4 N	20	30	5 D	1	83		7 D	31	37	11	1 Jr	29	90	3 F	28	43	4 Mr	29	96							
7 S	23	14	1 O	22	67	3 N	21	20		4 D	20	73	12	6 Jr	19	26	7 F	17	79	2 Mr	190	32							
6 O	11	04	7 N	9	57	2 D	9	10	13	3 Jr	7	63		5 F	6	16	6 Mr	70	69	1 Ap	6	22							
3 S	30	41	4 O	29	94	6 N	28	47		1 D	28	00	14	2 Jr	26	53	4 F	250	06	5 Mr	26	59							
7 S	19	77	2 O	19	30	3 N	17	83		5 D	17	36	15	6 Jr	15	89	1 F	14	43	2 Mr	15	96							
6 O	8	67	1 N	7	20	2 D	6	73	16	4 Jr	50	26		5 F	3	79	7 Mr	4	32	1 Ap	2	85							
4 S	27	04	5 O	26	57	7 N	25	10		1 D	240	63	17	3 Jr	23	16	4 F	21	69	6 Mr	23	22							
2 O	15	93	4 N	14	47	6 D	140	00	18	7 Jr	12	53		2 F	11	06	3 Mr	12	59	5 Ap	11	12							
7 O	5	30	1 N	3	83	3 D	3	36	19	4 Jr	1	89		6 Jr	31	42	7 Mr	1	95	2 Mr	31	49							
4 S	24	67	6 O	240	20	7 N	22	73		2 D	22	26	20	3 Jr	20	79	5 F	19	32	6 Mr	19	85							
3 O	120	57	5 N	11	10	6 D	10	63	21	1 Jr	9	16		2 F	7	69	4 Mr	9	22	5 Ap	70	75							
7 O	10	93	2 O	31	46	3 N	29	99		5 D	29	53	22	7 Jr	28	06	1 F	26	59	3 Mr	28	12							
5 S	21	30	6 O	20	83	1 N	19	36		2 D	18	89	23	4 Jr	17	42	5 F	150	95	7 Mr	17	48							
4 O	10	20	5 N	8	73	7 D	8	26	24	1 Jr	6	79		3 F	50	32	4 Mr	5	85	6 Ap	4	38							
1 S	28	57	3 O	28	10	4 N	26	63		6 D	26	16	25	7 Jr	240	69	2 F	23	22	3 Mr	24	75							
5 S	17	93	7 O	17	46	1 N	15	99		3 D	15	52	26	5 Jr	14	05	6 F	12	59	1 Mr	14	12							
4 O	6	83	6 N	5	36	7 D	40	89	27	2 Jr	3	42		3 F	1	95	5 Mr	3	48	7 Ap	2	01							
2 S	26	20	3 O	25	73	5 N	240	26		6 D	23	79	28	1 Jr	22	32	2 F	20	85	4 Mr	21	38							
1 O	14	09	2 N	120	63	4 D	12	16	29	5 Jr	10	69		7 F	9	22	1 Mr	10	75	3 Ap	9	28							
5 O	3	46	6 N	1	99	1 D	1	52		3 D	31	05	30	4 Jr	29	58	6 F	28	11	7 Mr	290	65							
2 S	220	83	4 O	22	36	5 N	20	89		7 D	20	42	31	1 Jr	18	95	3 F	17	48	5 Mr	190	01							
1 O	11	73	3 N	10	26	4 D	9	79	32	6 Jr	8	32		7 F	6	85	2 Mr	70	38	3 Ap	5	91							
6 S	30	09	7 O	29	62	2 N	28	15		3 D	27	69	33	5 Jr	26	22	6 F	24	75	1 Mr	26	28							
3 S	19	46	4 O	18	99	6 N	17	52		1 D	17	05	34	2 Jr	150	58	4 F	14	11	5 Mr	15	64							
2 O	8	36	3 N	6	89	5 D	6	42	35	6 Jr	40	95		1 F	3	48	3 Mr	5	01	4 Ap	3	54							
6 S	27	73	1 O	27	26	2 N	25	79		4 D	250	32	36	5 Jr	23	85	7 F	22	38	1 Mr	22	91							
5 O	15	62	7 N	14	15	1 D	13	68	37	3 Jr	12	21		4 F	10	75	6 Mr	12	28	7 Ap	10	81							

NOTE.—From 1900 A.D. to 1999 A.D. all eclipses of the Sun, visible anywhere in the world, are shown. From 1 B.C. to 300 A.D. the same observation applies. Between 300 A.D. and 1900 A.D. only those eclipses of the Sun which are visible in India are entered in this table.



## Surya Siddhanta.

+ 147-65293	+ 177-18353	+ 206-71411	+ 236-24470	+ 265-77529	+ 295-30588	+ 324-83647		
+ 9-880	+ 11-856	+ 13-832	+ 15-808	+ 17-784	+ 19-760	+ 354-86705		
						+ 21-736		
						+ 23-712		
Asvina	Kartika	Margasira	A.D.	Pausha	A.D.	Magha	Phalgun	Chaitra
Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction	Week-day Month Day Fraction
2 O 4 .99	4 N 30 .52	6 D 30 .05	38 7 Jr 1 .58	39 2 Jr 31 .11	3 Mr 1 .64	5 Mr 31 .17		
7 S 24 .36	1 O 23 .89	3 N 22 .42	40 4 D 21 .95	5 Jr 20 .48	1 F 19 .01	2 Mr 20 .54		
6 O 13 .25	7 N 11 .79	2 D 11 .32	41 3 Jr 9 .85	6 F 8 .38	6 Mr 8 .91	1 Ap 70 .44		
3 O 10 .62	5 O 31 .15	6 N 29 .68	42 1 D 29 .21	7 Jr 27 .74	4 F 26 .27	5 Mr 27 .81		
7 S 20 .99	2 O 20 .52	4 N 19 .05	43 5 D 18 .58	7 Jr 17 .11	1 F 15 .64	3 Mr 17 .17		
6 O 9 .89	1 N 8 .42	2 D 7 .95	44 4 Jr 6 .48	6 F 5 .01	7 Mr 6 .54	2 Ap 5 .07		
4 S 29 .25	5 O 28 .78	7 N 27 .31	45 1 D 26 .85	3 Jr 25 .38	4 F 23 .91	6 Mr 24 .44		
1 S 17 .62	3 O 17 .15	4 N 15 .68	46 6 D 15 .21	7 Jr 13 .74	2 F 12 .27	3 Mr 13 .80		
7 O 6 .52	2 N 5 .05	3 D 4 .58	47 5 Jr 3 .11	6 F 1 .64	1 Mr 3 .17	2 Ap 1 .70		
4 S 25 .88	6 O 25 .41	7 N 23 .95	48 2 D 23 .48	4 Jr 22 .01	5 F 20 .54	7 Mr 22 .07		
3 O 14 .78	5 N 13 .31	6 D 12 .84	49 1 Jr 11 .37	2 F 9 .90	4 Mr 10 .43	5 Ap 80 .97		
1 O 30 .15	2 N 10 .68	4 D 1 .21	50 5 D 30 .74	7 Jr 29 .27	1 F 27 .80	3 Mr 29 .33		
5 S 22 .52	7 O 22 .05	1 N 20 .58	51 3 D 20 .11	4 Jr 18 .64	6 F 17 .17	7 Mr 18 .70		
4 O 11 .41	5 N 9 .94	7 D 9 .47	52 2 Jr 8 .01	3 F 6 .54	5 Mr 8 .07	6 Ap 6 .60		
1 S 30 .78	3 O 30 .31	4 N 28 .84	53 6 D 28 .37	7 Jr 26 .90	2 F 25 .43	3 Mr 25 .96		
6 S 19 .15	7 O 18 .68	2 N 17 .21	54 3 D 16 .74	5 Jr 15 .27	6 F 13 .80	1 Mr 15 .33		
5 O 8 .05	6 N 6 .58	1 D 6 .11	55 2 Jr 40 .64	4 F 3 .17	5 Mr 4 .70	7 Ap 3 .23		
2 S 27 .41	3 O 26 .94	5 N 25 .47	56 7 D 25 .00	1 Jr 23 .53	3 F 22 .07	4 Mr 23 .60		
1 O 16 .31	2 N 14 .84	4 D 14 .37	57 5 Jr 12 .90	7 F 11 .43	1 Mr 11 .96	3 Ap 10 .49		
5 O 4 .68	7 N 30 .21	1 D 2 .74	58 3 Jr 1 .27	4 Jr 30 .80	6 Mr 1 .33	7 Mr 30 .86		
3 S 24 .04	4 O 23 .57	6 N 22 .10	59 7 D 21 .64	2 Jr 20 .17	3 F 18 .70	5 Mr 20 .23		
1 O 12 .94	3 N 11 .47	5 D 11 .00	60 6 Jr 9 .53	1 F 8 .06	2 Mr 90 .59	4 Ap 8 .12		
6 O 20 .31	7 O 31 .84	2 N 30 .37	61 3 D 29 .90	5 Jr 28 .43	6 F 26 .96	1 Mr 27 .49		
3 S 20 .68	5 O 20 .21	6 N 18 .74	62 1 D 18 .27	2 Jr 16 .80	4 F 15 .33	5 Mr 16 .86		
2 O 9 .57	4 N 8 .10	5 D 7 .63	63 7 Jr 6 .17	1 F 4 .70	3 Mr 6 .23	4 Ap 4 .76		
6 S 28 .94	1 O 28 .47	3 N 27 .00	64 4 D 26 .53	6 Jr 25 .06	7 F 23 .59	2 Mr 25 .12		
4 S 18 .31	7 N 16 .37	1 D 15 .90	65 3 Jr 14 .43	3 Jr 14 .43	4 F 12 .96	6 Mr 13 .49		
5 O 17 .84			66 7 Jr 2 .80	2 F 1 .33	3 Mr 2 .86	5 Ap 1 .39		
3 O 6 .21	4 N 4 .74	6 D 4 .27	67 5 D 23 .16	6 Jr 21 .69	1 F 20 .23	2 Mr 21 .76		
7 S 25 .57	2 O 25 .10	3 N 23 .63	68 4 Jr 11 .06	5 F 9 .59	7 Mr 11 .12	1 Ap 90 .65		
6 O 14 .47	1 N 13 .00	2 D 12 .53	69 1 D 31 .43	2 Jr 29 .96	4 F 28 .49	6 Mr 29 .02		
3 O 30 .84	5 N 2 .37	6 D 1 .90	70 5 D 19 .80	7 Jr 18 .33	1 F 16 .86	3 Mr 18 .89		
1 S 22 .20	2 O 21 .73	4 N 20 .27	71 4 Jr 7 .69	6 F 60 .22	7 Mr 7 .75	2 Ap 6 .29		
7 O 11 .10	1 N 9 .63	3 D 9 .16	72 2 D 28 .06	3 Jr 26 .59	5 F 25 .12	6 Mr 26 .65		
4 S 30 .47	6 O 30 .00	7 N 28 .53	73 6 D 17 .43	7 Jr 15 .96	2 F 14 .49	4 Mr 15 .02		
1 S 19 .84	3 O 19 .37	4 N 17 .90	74 5 Jr 4 .33	6 F 2 .86	1 Mr 4 .39	2 Ap 2 .92		
7 O 7 .73	2 N 6 .26	3 D 5 .79	75 2 D 24 .69	4 Jr 23 .23	5 F 21 .75	7 Mr 23 .28		
5 S 27 .10	6 O 26 .63	1 N 25 .16	76 1 Jr 12 .59	3 F 11 .12	4 Mr 12 .65	6 Ap 11 .18		
4 O 16 .00	5 N 14 .53	7 D 14 .06						



### TABLE X—

Kaliyuga.	Vikrama Era.	Saka Era.	Month and day A.D.	Fraction of day.	First New-Moon in Solar Year.	Anomaly of first New-Moon.	A.D.	Week-day of 1st January.	Yalsakha	Jyeshta	Ashada	Shravana	Bhadrapada										
5076	2032	1897	14A	0271	26.6868	18.617	1975	4	7 My	10.00	.71	2 Je	9	.24	3 JI	8	.77	5 Au	7	.30	6 S	5	.83
5077	2033	1898	13A	2859	15.7951	14.774	1976	5	5 Ap	29.00	.05	6 My	28	.61	1 Je	27	.14	2 JI	26	.87	4 Au	25	.20
5078	2034	1899	13A	5447	4.9034	10.931	1977	7	2 Ap	18.00	.45	3 My	17	.98	5 Je	16	.51	1 Au	14	.57	3 S	13	.10
5079	2035	1900	13A	8034	23.5423	9.064	1978	1	1 My	7	.34	2 Je	5	.87	4 JI	5	.41	5 Au	3	.94	7 S	20	.47
5080	2036	1901	14A	0622	12.6506	5.222	1979	2	5 Ap	26	.71	7 My	26	.24	1 Je	24	.77	3 JI	24	.30	4 Au	22	.83
5081	2037	1902	13A	3209	1.7589	1.379	1980	3	3 Ap	15	.08	4 My	14	.61	7 JI	12	.67	2 Au	11	.20	3 S	9	.73
5082	2038	1903	13A	5797	20.3978	27.067	1981	5	1 My	3	.98	3 Je	2	.51	5 JI	20	.04	6 JI	31	.57	1 Au	30	.10
5083	2039	1904	13A	8384	9.5061	23.224	1982	6	6 Ap	23	.34	7 My	22	.87	2 Je	21	.40	3 JI	20	.93	5 Au	19	.47
5084	2040	1905	14A	0972	28.1450	21.357	1983	7	5 My	12	.24	6 Je	10	.77	1 JI	10	.30	2 Au	8	.83	4 S	7	.36
5085	2041	1906	13A	3559	17.2533	17.514	1984	1	2 Ap	30	.61	4 My	30	.14	5 Je	23	.67	7 JI	28	.20	1 Au	26	.73
5086	2042	1907	13A	6147	6.3616	13.672	1985	3	6 Ap	19	.97	1 My	19	.51	3 Je	18	.04	4 JI	17	.57	7 S	14	.63
5087	2043	1908	13A	8735	25.0004	11.805	1986	4	5 My	8	.87	7 Je	7	.40	1 JI	6	.93	3 Au	5	.46	4 S	3	.99
5088	2044	1909	14A	1322	14.1087	7.962	1987	5	3 Ap	28	.24	4 My	27	.77	6 Je	26	.30	7 JI	25	.83	2 Au	24	.36
5089	2045	1910	13A	3910	3.2170	4.119	1988	6	7 Ap	16	.61	2 My	16	.14	5 JI	14	.20	6 Au	12	.73	1 S	11	.26
5090	2046	1911	13A	6497	21.8559	2.253	1989	1	6 My	5	.50	1 Je	4	.03	2 JI	3	.57	4 Au	20	.10	5 Au	31	.63
5091	2047	1912	13A	9065	10.9642	25.965	1990	2	3 Ap	24	.87	5 My	24	.40	6 Je	22	.93	1 JI	22	.46	2 Au	20	.99
5092	2048	1913	14A	1672	0.0725	22.122	1991	3	1 Ap	14	.24	4 Je	12	.30	5 JI	11	.83	7 Au	10	.36	1 S	8	.89
5093	2049	1914	13A	4260	10.7114	20.255	1992	4	7 My	2	.14	1 My	31	.67	3 Je	30	.20	4 JI	29	.73	6 Au	28	.26
5094	2050	1915	13A	6848	7.8197	16.412	1993	6	4 Ap	21	.50	6 My	21	.03	7 Je	19	.56	2 JI	19	.09	3 Au	17	.63
5095	2051	1916	13A	9435	26.4586	14.546	1994	7	3 My	10	.40	4 Je	8	.93	6 JI	8	.46	7 Au	6	.99	5 S	16	.16
5096	2052	1917	14A	2023	15.5669	10.703	1995	1	7 Ap	29	.77	2 My	29	.30	3 Je	27	.83	5 JI	27	.36	6 Au	25	.89
5097	2053	1918	13A	4610	4.6752	6.860	1996	2	5 Ap	18	.13	6 My	17	.67	1 Je	16	.20	4 Au	14	.26	5 S	12	.79
5098	2054	1919	13A	7198	23.3141	4.993	1997	4	4 My	7	.03	5 Je	5	.56	7 JI	5	.09	1 Au	3	.62	3 S	20	.15
5099	2055	1920	14A	9785	12.4224	1.151	1998	5	1 Ap	26	.40	2 My	25	.93	4 Je	24	.46	5 JI	23	.99	7 Au	22	.52
5100	2056	1921	14A	2373	1.5307	24.862	1999	6	5 Ap	15	.77	7 My	15	.30	3 JI	13	.36	4 Au	11	.89	6 S	10	.42

### TABLE X-A.

### Distance of Sun from the Moon's Node at the Commencement of each Solar Year.

## INCREASE FOR CENTURIES.

INCREASE FOR CENTURIES.										INCREASE	
Christian Era.	Kaliyuga.	Days.		Christian Era.	Kaliyuga.	Days.		Yr.	Incr.	Days.	
<b>B.C.</b>	<b>1</b>	3101	62-91	Modern figures (less the Sodhya of Surya Siddhanta).	<b>1000</b>	4101	159-27	Surya Siddhanta without bija but less Sodhya.	<b>1</b>	18-63	
<b>A.D.</b>	<b>100</b>	3201	20-45		<b>1100</b>	4201	116-46		<b>2</b>	37-27	
	<b>200</b>	3301	151-30		<b>1200</b>	4301	72-44		<b>3</b>	55-90	
	<b>300</b>	3401	109-18		<b>1300</b>	4401	29-63		<b>4</b>	74-54	
	<b>400</b>	3501	65-68		<b>1400</b>	4501	159-97		<b>5</b>	93-17	
	<b>500-</b>	3601	23-76	Arya Siddhanta (less the Sodhya of Arya Siddhanta).	<b>1500</b>	4601	118-20	Surya Siddhanta with bija but less Sodhya.	<b>6</b>	111-80	
	<b>600</b>	3701	154-79		<b>1600</b>	4701	75-91		<b>7</b>	130-44	
	<b>700</b>	3801	112-33		<b>1700</b>	4801	33-45		<b>8</b>	149-07	
	<b>800</b>	3901	70-04		<b>1800</b>	4901	164-12		<b>9</b>	167-71	
	<b>900</b>	4001	27-59		<b>1900</b>	5001	120-62		<b>10</b>	18-03	

## The Canons of Eclipses.

**A Solar Eclipse is certain if  $\odot$  from Node is between 0 and 15.598 or between 157.714 and 173.312 days.**

"	"	doubtful	"	"	15-771	"	18-198	"	157-541	"	155-114	"
"	"	impossible	"	"	18-371	"	154-939 days.					



## Surya Siddhanta.

+ 147.65293	+ 177.18353	+ 206.71411	+ 236.24470	+ 265.77529	+ 295.30588	+ 324.83647
+ 9.880	+ 11.856	+ 13.832	+ 15.808	+ 17.784	+ 19.760	+ 354.36705
						+ 21.736
						+ 23.712

Asvina				Kartika				Margasira				A.D.	Pausha				A.D.	Magha				Phalgunā				Chaitra									
Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction		Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction	Week-day	Month	Day	Fraction						
1 O	5	37	2 N	3 O	90	4 D	3	43	76	5 Jr	1	96		7 Jr	31	49		2 Mr	1	02	3 Mr	30	55		4 Jr	19	85	6 F	18	39	7 Mr	19	92		
5 S	23	73	7 O	23	26	1 N	21	79	78	3 D	21	32	77	4 Jr	7	75		5 Mr	9	28	6 Ap	7	81		3 F	7	75	5 Mr	9	28	6 Ap	7	81		
4 O	12	63	6 N	11	16	7 D	10	69		2 Jr	9	22		3 F	7	75		5 Mr	9	28	6 Ap	7	81		1 Jr	28	12	2 F	26	0	65	4 Mr	28	18	
2 O	2	00	3 O	31	53	5 N	30	06		6 D	29	59	79	5 Jr	17	49		7 F	16	0	02	1 Mr	16	55		1 Jr	17	49	7 F	16	0	02	1 Mr	16	55
6 S	21	36	7 O	20	89	2 N	19	43	81	3 D	18	96	80	4 F	4	38		5 Mr	5	91	7 Ap	4	45		4 F	4	38	5 Mr	5	91	7 Ap	4	45		
5 O	9	26	6 N	7	79	1 D	7	32		2 Jr	5	85		1 Jr	28	12		5 Mr	5	91	7 Ap	4	45		1 Jr	28	12	2 F	26	0	65	4 Mr	28	18	
2 S	28	63	4 O	28	16	5 N	26	69		7 D	26	22	82	5 Jr	17	49		7 F	16	0	02	1 Mr	16	55		1 Jr	28	12	2 F	26	0	65	4 Mr	28	18
7 S	18	00	3 N	16	06	4 D	15	59	83	6 Jr	14	12		Magha Kshaya				7 F	12	65	3 Ap	12	71		5 Jr	17	49	7 F	16	0	02	1 Mr	16	55	
1 O	17	53								3 Jr	3	49		5 F	2	02		6 Mr	2	55	1 Ap	1	08		5 Jr	17	49	7 F	16	0	02	1 Mr	16	55	
5 O	6	89	7 N	5	42	1 D	4	95	84	7 D	22	85	85	2 Jr	21	38		3 F	19	91	5 Mr	21	44		2 Jr	21	38	3 F	19	91	5 Mr	21	44		
3 S	25	26	4 O	24	79	6 N	23	32		6 Jr	10	75		1 F	9	28		2 Mr	10	81	4 Ap	9	34		1 F	9	28	2 Mr	10	81	4 Ap	9	34		
2 O	14	16	3 N	12	69	5 D	12	22	86																										
6 O	30	53	1 N	2	06	2 D	1	59		4 D	31	12	87	5 Jr	29	65		7 F	28	18	1 Mr	29	71		5 Jr	29	65	7 F	28	18	1 Mr	29	71		
3 S	22	89	5 O	22	42	6 N	20	95		1 D	20	48	88	3 Jr	19	01		4 F	17	55	6 Mr	18	08		3 Jr	19	01	4 F	17	55	6 Mr	18	08		
2 O	10	79	4 N	9	32	5 D	8	85	89	7 Jr	7	38		1 F	50	91		3 Mr	7	44	4 Ap	5	97		1 F	50	91	3 Mr	7	44	4 Ap	5	97		
7 S	30	16	1 O	29	69	3 N	28	22		4 D	27	75	90	6 Jr	26	0		7 F	24	81	2 Mr	26	34		6 Jr	26	0	28	7 F	24	81	2 Mr	26	34	
4 S	19	52	6 O	19	05	7 N	17	59		2 D	17	12	91	3 Jr	15	65		5 F	14	18	6 Mr	15	71		3 Jr	15	65	5 F	14	18	6 Mr	15	71		
3 O	8	42	4 N	6	95	6 D	60	48	92	1 Jr	5	01		2 F	3	54		4 Mr	4	07	5 Ap	2	61		2 F	3	54	4 Mr	4	07	5 Ap	2	61		
7 S	26	79	2 O	26	32	3 N	24	85		5 D	24	38	93	6 Jr	22	91		1 F	21	44	2 Mr	22	97		6 Jr	22	91	1 F	21	44	2 Mr	22	97		
6 O	15	69	1 N	14	0	22	2 D	13	75	4 Jr	12	28		5 F	10	81		7 Mr	12	34	1 Ap	10	87		5 F	10	81	7 Mr	12	34	1 Ap	10	87		
4 O	5	05	5 N	3	58	7 D	3	11	95	1 Jr	1	65		3 Jr	31	18		4 Mr	1	71	6 Mr	31	0	24		3 Jr	31	18	4 Mr	1	71	6 Mr	31	0	24
1 S	24	42	2 O	23	95	4 N	22	48		6 D	22	01	96	7 Jr	20	54		2 F	19	07	3 Mr	19	60		7 Jr	20	54	2 F	19	07	3 Mr	19	60		
7 O	12	32	1 N	10	85	3 D	10	38	97	4 Jr	8	91		6 F	7	44		7 Mr	8	97	2 Ap	7	50		6 F	7	44	7 Mr	8	97	2 Ap	7	50		
4 O	1	69	6 O	31	22	7 N	29	75		2 D	29	28	98	3 Jr	27	81		5 F	26	34	6 Mr	27	87		3 Jr	27	81	5 F	26	34	6 Mr	27	87		
2 S	21	05	3 O	20	58	5 N	19	11		6 D	18	64	99	1 Jr	17	17		2 F	15	71	4 Mr	17	24		1 Jr	17	17	2 F	15	71	4 Mr	17	24		
7 O	9	95	2 N	8	48	4 D	8	01	20	5 Jr	60	54	00	7 F	5	07		1 Mr	5	60	3 Ap	4	13		7 F	5	07	1 Mr	5	60	3 Ap	4	13		

TABLE X—A.

Distance of Sun from the Moon's Node at the Commencement of each Solar Year.

FOR ODD YEARS.				INCREASE FOR ODD YEARS.							
Yr. Increase.	days.	Yr. Increase.	days.	Yr. Increase.	days.	Yr. Increase.	days.	Yr. Increase.	days.	Yr. Increase.	days.
11	31.66	21	44.69	31	57.72	41	70.75	51	83.78	61	96.81
12	50.30	22	63.33	32	76.35	42	89.38	52	102.41	62	115.44
13	68.93	23	81.96	33	94.99	43	108.01	53	121.05	63	134.07
14	87.56	24	100.59	34	113.62	44	126.65	54	139.68	64	152.71
15	106.20	25	119.23	35	132.26	45	145.29	55	158.31	65	171.34
16	124.83	26	137.86	36	150.89	46	163.92	56	176.94	66	189.97
17	143.47	27	156.50	37	169.52	47	182.55	57	200.57	67	208.60
18	162.10	28	175.13	38	188.15	48	201.18	58	219.20	68	227.23
19	180.74	29	193.77	39	206.79	49	219.82	59	237.83	69	245.86
20	200.00	30	213.00	40	226.00	50	239.45	60	256.46	70	264.09

## The Canons of Eclipses.

A Lunar Eclipse is certain if ☉ from Node is between 0 and 10.052 or between 163.260 and 173.312 days.  
 " " doubtful " " 10.225 " 13.345 " 163.087 " 159.967 "  
 " " impossible " " 13.518 " 159.794 days.

**TABLE XI.—LONGEST INTERVAL IN DAYS FROM NEW-MOON TO ENDING MOMENT**  
 [The largest correction is—220890 for Nakshatras]

**NAKSHATRAS.**

Names of Nakshatras.	Order	I Ordinarily Vaisakha		II Ordinarily Jyestha		III Ordinarily Ashada		IV Ordinarily Shravana		V Ordinarily Bhadrapada		VI Ordinarily Asvina		VII Ordinarily Kartika		VIII Ordinarily Margasira	
		Order		Order		Order		Order		Order		Order		Order		Order	
Revati ...	...	27	0-1624	3	0-9892	5	0-8041	7	0-6190	9	0-4339	11	0-2489	13	0-0638	16	0-8906
Asvini ...	...	1	1-1743	4	2-0011	6	1-8160	8	1-6309	10	1-4459	12	1-2608	14	1-0757	17	1-9023
Bharani ...	...	2	2-1862	5	3-0130	7	2-8279	9	2-6428	11	2-4578	13	2-2727	15	2-0876	18	2-9144
Krittika ...	...	3	3-1981	6	4-0249	8	3-8398	10	3-6548	12	3-4697	14	3-2846	16	3-0995	19	3-9263
Rohini ...	...	4	4-2100	7	5-0368	9	4-8518	11	4-6667	13	4-4816	15	4-2965	17	4-1114	20	4-9383
Mrigasira ...	...	5	5-2219	8	6-0488	10	5-8637	12	5-6786	14	5-4935	16	5-3084	18	5-1233	21	5-9502
Ardhra ...	...	6	6-2338	9	7-0607	11	6-8756	13	6-6905	15	6-5054	17	6-3203	19	6-1353	22	6-9621
Punarvasu ...	...	7	7-2458	10	8-0726	12	7-8875	14	7-7024	16	7-5173	18	7-3323	20	7-1472	23	7-9740
Pushya ...	...	8	8-2577	11	9-0845	13	8-8994	15	8-7143	17	8-5292	19	8-3442	21	8-1591	24	8-9859
Aslesha ...	...	9	9-2696	12	10-0964	14	9-9113	16	9-7262	18	9-5412	20	9-3561	22	9-1710	25	9-9978
Magha ...	...	10	10-2815	13	11-1083	15	10-9232	17	10-7382	19	10-5531	21	10-3680	23	10-1829	26	11-0097
Purna Phalguni ...	...	11	11-2934	14	12-1202	16	11-9352	18	11-7501	20	11-5650	22	11-3799	24	11-1948	27	12-0217
Uttara Phalguni ...	...	12	12-3053	15	13-1322	17	12-9471	19	12-7620	21	12-5769	23	12-3918	25	12-2067	1	13-0336
Hasta ...	...	13	13-3172	16	14-1441	18	13-9590	20	13-7739	22	13-5888	24	13-4037	26	13-2187	2	14-0455
Chitra ...	...	14	14-3292	17	15-1567	19	14-9709	21	14-7858	23	14-6007	25	14-4156	27	14-2306	3	15-0574
Svati ...	...	15	15-3411	18	16-1679	20	15-9828	22	15-7977	24	15-6126	26	15-4276	1	15-2425	4	16-0693
Visakha ...	...	16	16-3530	19	17-1798	21	16-9947	23	16-8096	25	16-6246	27	16-4395	2	16-2544	5	17-0812
Anuradha ...	...	17	17-3649	20	18-1917	22	18-0066	24	17-8216	26	17-6365	1	17-4514	3	17-2663	6	18-0931
Jyeshtha ...	...	18	18-3768	21	19-2036	23	19-0186	25	18-8335	27	18-6484	2	18-4633	4	18-2782	7	19-1051
Mula ...	...	19	19-3887	22	20-2156	24	20-0305	26	19-8454	1	19-6603	3	19-4752	5	19-2901	8	20-1170
Purva Ashada ...	...	20	20-4006	23	21-2275	25	21-0424	27	20-8573	2	20-6722	4	20-4871	6	20-3020	9	21-1289
Uttara Ashada ...	...	21	21-4126	24	22-2394	26	22-0543	1	21-8692	3	21-6841	5	21-4990	7	21-3140	10	22-1408
Shravana ...	...	22	22-4245	25	23-2513	27	23-0662	2	22-8811	4	22-6960	6	22-5110	8	22-3259	11	23-1527
Satavishtha or Danishta ...	...	23	23-4364	26	24-2632	1	24-0781	3	23-8930	5	23-7080	7	23-5229	9	23-3378	12	24-1646
Satabhisaj or Sataraka ...	...	24	24-4483	27	25-2751	2	25-0900	4	24-9050	6	24-7199	8	24-5348	10	24-3497	13	25-1765
Purva Bhadrapada ...	...	25	25-4602	1	26-2870	3	26-1020	5	25-9169	7	25-7318	9	25-5467	11	25-3616	14	26-1884
Uttara Bhadrapada ...	...	26	26-4721	2	27-2990	4	27-1139	6	26-9288	8	26-7437	10	26-5586	12	26-3735	15	27-2001
Revati ...	...	27	27-4840	3	28-3109	5	28-1258	7	27-9407	9	27-7556	11	27-5705	13	27-3854	16	28-2123
	...	1	28-4960	4	29-3228	6	29-1377	8	28-9526	10	28-7675	12	28-5824	14	28-3974	17	29-2242
	...	2	29-5079											15	29-4093		
<b>Names of Yogas.</b>		<b>YOGAS.</b>															
Vaidhriti ...	...	27	0-3021	5	0-8992	9	0-5548	13	0-2104	18	0-8075	22	0-4631	26	0-1187	4	0-7157
Vishkambha ...	...	1	1-2436	6	1-8407	10	1-4963	14	1-1519	19	1-7490	23	1-4046	27	1-0601	5	1-6572
Priti ...	...	2	2-1851	7	2-7822	11	2-4378	15	2-0934	20	2-6905	24	2-3460	1	2-0016	6	2-5987
Ayushmat ...	...	3	3-1266	8	3-7237	12	3-3793	16	3-0349	21	3-6319	25	3-2875	2	2-9431	7	3-5402
Saubhagya ...	...	4	4-0681	9	4-6652	13	4-3208	17	3-9764	22	4-5734	26	4-2290	3	3-8846	8	4-4817
Sobhana ...	...	5	5-0096	10	5-6067	14	5-2623	18	4-9178	23	5-5149	27	5-1705	4	4-8261	9	5-4232
Atiganda ...	...	6	5-9511	11	6-5482	15	6-2037	19	5-8593	24	6-4564	1	6-1120	5	5-7676	10	6-3647
Sukarman ...	...	7	6-8926	12	7-4896	16	7-1452	20	6-8008	25	7-3979	2	7-0535	6	6-7091	11	7-3062
Dhriti ...	...	8	7-8341	13	8-4311	17	8-0867	21	7-7423	26	8-3394	3	7-9950	7	7-6506	12	8-2477
Sula ...	...	9	8-7755	14	9-3726	18	9-0282	22	8-6838	27	9-2809	4	8-9365	8	8-5921	13	9-1891
Ganda ...	...	10	9-7170	15	10-3141	19	9-9697	23	9-6253	1	10-2224	5	9-8780	9	9-5335	14	10-1306
Vridhhi ...	...	11	10-6585	16	11-2556	20	10-9112	24	10-5668	2	11-1639	6	10-8194	10	10-4750	15	11-0721
Dhruva ...	...	12	11-6000	17	12-1971	21	11-8527	25	11-5083	3	12-1053	7	11-7609	11	11-4165	16	12-0136
Vyaghata ...	...	13	12-5415	18	13-1386	22	12-7942	26	12-4498	4	13-0468	8	12-7024	12	12-3580	17	12-9551
Harshana ...	...	14	13-4830	19	14-0800	23	13-7357	27	13-3912	5	13-9843	9	13-6439	13	13-2995	18	13-8966
Vajra ...	...	15	14-4245	20	15-0216	24	14-6771	1	14-3327	6	14-9298	10	14-5854	14	14-2410	19	14-8381
Siddhi ...	...	16	15-3660	21	15-9630	25	15-6186	2	15-2742	7	15-8713	11	15-5269	15	15-1825	20	15-7796
Vyatipata ...	...	17	16-3075	22	16-9045	26	16-5601	3	16-2157	8	16-8128	12	16-4684	16	16-1240	21	16-7211
Variyas ...	...	18	17-2489	23	17-8460	27	17-5016	4	17-1572	9	17-7543	13	17-4099	17	17-0655	22	17-6625
Parigha ...	...	19	18-1904	24	18-7875	1	18-4431	5	18-0967	10	18-6958	14	18-3514	18	18-0070	23	18-6040
Siva ...	...	20	19-1319	25	19-7290	2	19-3846	6	19-0402	11	19-6373	15	19-2929	19	18-9484	24	19-5455
Siddha ...	...	21	20-0734	26	20-6705	3	20-3261	7	19-9817	12	20-5788	16	20-2343	20	19-8899	25	20-4870
Sadhya ...	...	22	21-0149	27	21-6120	4	21-2676	8	20-9232	13	21-5202	17	21-1758	21	20-8314	26	21-4285
Subha ...	...	23	21-9564	1	22-5535	5	22-2091	9	21-8647	14	22-4617	18	22-1173	22	21-7729	27	22-3700
Sukla ...	...	24	22-8979	2	23-4950	6	23-1506	10	22-8061	15	23-4032	19	23-0588	23	22-7144	1	23-3115
Brahman ...	...	25	23-8394	3	24-4665	7	24-0920	11	23-7476	16	24-3447	20	24-0003	24	23-6559	2	24-2530
Indra ...	...	26	24-7809	4	25-3780	8	25-0335	12	24-6891	17	25-2862	21	24-9418	25	24-5974	3	25-1945
Vaidhriti ...	...	27	25-7224	5	26-3194	9	25-8750	13	25-6306	18	26-2277	22	25-8833	26	25-5389	4	26-1360
	...	1	26-6638	6	27-2609	10	26-9165	14	26-5721	19	27-1692	23	26-8248	27	26-4804	5	27-0774
	...	2	27-6053	7	28-2024	11	27-8580	15	27-5136	20	28-1107	24	27-7663	1	27-4219	6	28-0189
	...	3	28-5468	8	29-1439	12	28-7995	16	28-4551	21	29-0522	25	28-7078	2	28-3633	7	28-9604
	...	4	29-4883					17	29-3966					3	29-3048		

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XI—A. LONGEST INTERVAL IN DAYS, GHATIKAS AND PALAS

The largest correction for

## NAKSHATRAS.

Names of Nakshatras.	Ordinarily		Ordinarily		Ordinarily		Ordinarily		Ordinarily	
	Order	Vaisakha	Order	Jyeshtha	Order	Ashada	Order	Shravana	Order	Bhadrapada
		I		II		III		IV		V
		d. g. p.		d. g. p.		d. g. p.		d. g. p.		d. g. p.
Revati ... ..	27	0 9 45	3	0 59 21	5	0 48 15	7	0 37 8	9	0 26 2
Asvini ... ..	1	1 10 28	4	2 0 4	6	1 48 58	8	1 37 51	10	1 26 45
Bharani ... ..	2	2 11 10	5	3 0 47	7	2 49 41	9	2 38 34	11	2 27 28
Krittika ( <i>Tamil</i> Kiruttigai) ...	3	3 11 53	6	4 1 30	8	3 50 23	10	3 39 17	12	3 28 11
Rohini ... ..	4	4 12 36	7	5 2 13	9	4 51 7	11	4 40 0	13	4 28 54
Mirgasira ( <i>Tamil</i> Mirugasiram) ...	5	5 13 19	8	6 2 56	10	5 51 49	12	5 40 43	14	5 29 37
Ardra ( <i>Tamil</i> arudra or Tiruvadilai)	6	6 14 2	9	7 3 39	11	6 52 32	13	6 41 26	15	6 30 20
Punarvasu ... ..	7	7 14 45	10	8 4 21	12	7 53 15	14	7 42 9	16	7 31 2
Pushya ( <i>Tamil</i> Pusam) ... ..	8	8 15 28	11	9 5 4	13	8 53 58	15	8 42 52	17	8 31 45
Aslesha ( <i>Tamil</i> Ayilyam) ... ..	9	9 16 11	12	10 5 47	14	9 54 41	16	9 43 34	18	9 32 28
Magha ( <i>Tamil</i> Magham) ... ..	10	10 16 53	13	11 6 30	15	10 55 24	17	10 44 18	19	10 33 11
Purva Phalguni ( <i>Tamil</i> Puram) ...	11	11 17 36	14	12 7 13	16	11 56 7	18	11 45 0	20	11 33 54
Uttara Phalguni ( <i>Tamil</i> Uttiram) ...	12	12 18 19	15	13 7 56	17	12 56 50	19	12 45 43	21	12 34 37
Hasta ( <i>Tamil</i> Hastam) ... ..	13	13 19 2	16	14 8 39	18	13 57 32	20	13 46 26	22	13 35 20
Chitra ( <i>Tamil</i> Chittirai) ... ..	14	14 19 45	17	15 9 24	19	14 58 15	21	14 47 9	23	14 36 3
Svati ... ..	15	15 20 28	18	16 10 5	20	15 58 58	22	15 47 52	24	15 36 45
Visakha ( <i>Tamil</i> Visakam) ... ..	16	16 21 11	19	17 10 47	21	16 59 41	23	16 48 35	25	16 37 20
Anuradha ( <i>Tamil</i> Anusham) ... ..	17	17 21 54	20	18 11 30	22	18 0 24	24	17 49 18	26	17 38 11
Jyeshtha ( <i>Tamil</i> Kettai) ... ..	18	18 22 37	21	19 12 13	23	19 1 7	25	18 50 1	27	18 38 54
Mula ( <i>Tamil</i> Mulam) ... ..	19	19 23 19	22	20 12 56	24	20 1 50	26	19 50 44	1	19 39 37
Purva Ashada ( <i>Tamil</i> Puradam) ...	20	20 24 2	23	21 13 39	25	21 2 33	27	20 51 26	2	20 40 20
Uttara Ashada ( <i>Tamil</i> Uttiradam) ...	21	21 24 45	24	22 14 22	26	22 3 16	1	21 52 9	3	21 41 3
Shravana ( <i>Tamil</i> Tiruvonam) ... ..	22	22 25 28	25	23 15 5	27	23 3 58	2	22 52 52	4	22 41 46
Shravishta or Danishta ( <i>Tamil</i> Avittam)	23	23 26 11	26	24 15 48	1	24 4 41	3	23 53 35	5	23 42 29
Satabhisaj or Sataraka ( <i>Tamil</i> Sadayam)	24	24 26 54	27	25 16 30	2	25 5 24	4	24 54 18	6	24 43 2
Purva Bhadrpada ( <i>Tamil</i> Purattadi)	25	25 27 37	1	26 17 13	3	26 6 7	5	25 55 1	7	25 43 55
Uttara Bhadrpada ( <i>Tamil</i> Uttirattadi)	26	26 28 20	2	27 17 56	4	27 6 50	6	26 55 44	8	26 44 37
Revati ... ..	27	27 29 2	3	28 18 39	5	28 7 33	7	27 56 27	9	27 45 20
	1	28 29 46	4	29 19 22	6	29 8 16	8	28 57 9	10	28 46 3
	2	29 30 29								

## Names of Yogas.

## YOGAS.

Vaidhriti ... ..	27	0 18 8	5	0 53 57	9	0 33 17	13	0 12 38	18	0 48 27
Vishkamba ... ..	1	1 14 37	6	1 50 27	10	1 29 47	14	1 9 7	19	1 44 56
Priti ... ..	2	2 11 6	7	2 46 56	11	2 26 16	15	2 5 36	20	2 41 26
Ayushmat ... ..	3	3 7 36	8	3 43 25	12	3 22 46	16	3 2 6	21	3 37 55
Saubhagya ... ..	4	4 4 5	9	4 39 55	13	4 19 15	17	3 58 35	22	4 34 24
Sobhana ... ..	5	5 0 35	10	5 36 24	14	5 15 44	18	4 55 4	23	5 30 54
Atiganda ... ..	6	5 57 4	11	6 32 54	15	6 12 13	19	5 51 34	24	6 27 23
Sukarman ... ..	7	6 53 33	12	7 29 23	16	7 8 43	20	6 48 3	25	7 23 53
Dhriti ... ..	8	7 50 3	13	8 25 52	17	8 5 12	21	7 44 32	26	8 20 22
Sula ... ..	9	8 46 32	14	9 22 21	18	9 1 42	22	8 41 2	27	9 16 51
Ganda ... ..	10	9 43 1	15	10 18 51	19	9 58 11	23	9 37 31	1	10 13 21
Vridhhi ... ..	11	10 39 31	16	11 15 20	20	10 54 40	24	10 34 1	2	11 9 50
Dhruva ... ..	12	11 36 0	17	12 11 50	21	11 51 10	25	11 30 30	3	12 6 19
Vyaghata ... ..	13	12 32 29	18	13 8 19	22	12 47 39	26	12 26 59	4	13 2 49
Harshana ... ..	14	13 28 59	19	14 4 48	23	13 41 9	27	13 23 28	5	13 59 58
Vajra ... ..	15	14 25 28	20	15 1 18	24	14 40 38	1	14 19 58	6	14 55 47
Siddhi ... ..	16	15 21 58	21	15 57 47	25	15 37 7	2	15 16 27	7	15 52 17
Vyatipata ... ..	17	16 18 27	22	16 54 16	26	16 33 36	3	16 12 57	8	16 48 46
Variyas ... ..	18	17 14 56	23	17 50 46	27	17 30 6	4	17 9 26	9	17 45 16
Parigha ... ..	19	18 11 26	24	18 47 15	1	18 26 35	5	18 5 55	10	18 41 45
Siva ... ..	20	19 7 55	25	19 43 44	2	19 23 5	6	19 2 25	11	19 38 14
Siddha ... ..	21	20 4 24	26	20 40 14	3	20 19 34	7	19 58 54	12	20 34 44
Sadhya ... ..	22	21 0 54	27	21 36 43	4	21 16 3	8	20 55 24	13	21 31 13
Subha ... ..	23	21 57 23	1	22 33 13	5	22 12 33	9	21 51 53	14	22 27 42
Sukla ... ..	24	22 53 53	2	23 29 42	6	23 9 2	10	22 48 22	15	23 21 12
Brahman ... ..	25	23 50 22	3	24 27 59	7	24 5 31	11	23 44 51	16	24 20 41
Indra ... ..	26	24 46 51	4	25 22 41	8	25 2 1	12	24 41 21	17	25 17 10
Vaidhriti ... ..	27	25 43 21	5	26 19 10	9	25 58 30	13	25 37 50	18	26 13 40
	1	26 39 50	6	27 15 39	10	26 54 59	14	26 31 20	19	27 10 9
	2	27 36 19	7	28 12 9	11	27 51 29	15	27 30 49	20	28 6 39
	3	28 32 49	8	29 8 38	12	28 47 58	16	28 27 18	21	29 3 8
	4	29 29 18					17	29 23 48		

## FROM NEW-MOON TO ENDING MOMENT OF EACH NAKSHATRA AND YOGA.

**Nakshatras is—2d., 12gh., 32p, and—4d, 6gh, 38p, for yogas.**

## NAKSHATRAS.

[illegible]

**YOGĀS.**

22	0 27 47	26	0 7 7	4	0 42 57	8	0 22 17	12	0 1 37	17	0 37 26	21	0 16 47	26	0 52 36
23	1 24 17	27	1 3 36	5	1 39 26	9	1 18 46	13	0 58 6	18	1 33 56	22	1 13 16	27	1 49 6
24	2 20 46	1	2 0 6	6	2 35 55	10	2 15 16	14	1 54 36	19	2 30 25	23	2 9 45	1	2 45 35
25	3 17 15	2	2 56 35	7	3 32 55	11	3 11 45	15	2 51 5	20	3 26 55	24	3 6 15	2	3 42 4
26	4 13 44	3	3 53 5	8	4 28 54	12	4 8 14	16	3 47 35	21	4 23 24	25	4 2 44	3	4 38 33
27	5 10 14	4	4 49 34	9	5 25 24	13	5 4 44	17	4 44 4	22	5 19 53	26	4 59 13	4	5 35 3
1	6 6 43	5	5 46 3	10	6 21 53	14	6 1 13	18	5 40 33	23	6 16 23	27	5 55 43	5	6 31 32
2	7 3 13	6	6 42 33	11	7 18 22	15	6 57 43	19	6 37 2	24	7 12 52	1	6 52 12	6	7 28 2
3	7 59 42	7	7 39 2	12	8 14 52	16	7 54 12	20	7 33 32	25	8 9 21	2	7 48 41	7	8 24 31
4	8 56 11	8	8 35 32	13	9 11 21	17	8 50 41	21	8 30 1	26	9 5 51	3	8 45 11	8	9 21 0
5	9 52 41	9	9 32 1	14	10 7 50	18	9 47 10	22	9 26 31	27	10 2 20	4	9 41 40	9	10 17 30
6	10 49 10	10	10 28 30	15	11 4 20	19	10 43 40	23	10 23 0	1	10 58 50	5	10 38 10	10	11 13 23
7	11 45 39	11	11 24 59	16	12 0 49	20	11 40 9	24	11 19 29	2	11 55 19	6	11 34 39	11	12 10 28
8	12 42 9	12	12 21 29	17	12 57 18	21	12 36 39	25	12 15 59	3	12 51 48	7	12 31 8	12	13 6 58
9	13 38 38	13	13 17 58	18	13 53 48	22	13 33 8	26	13 12 28	4	13 48 17	8	13 27 38	13	14 3 27
10	14 35 8	14	14 14 28	19	14 50 17	23	14 29 37	27	14 8 58	5	14 44 47	9	14 24 7	14	14 59 56
11	15 31 37	15	15 10 57	20	15 46 47	24	15 26 7	1	15 5 27	6	15 41 16	10	15 20 36	15	15 56 26
12	16 28 6	16	16 7 26	21	16 43 16	25	16 22 36	2	16 1 56	7	16 37 46	11	16 17 6	16	16 52 55
13	17 24 36	17	17 3 56	22	17 39 45	26	17 19 5	3	16 58 25	8	17 34 15	12	17 13 35	17	17 49 25
14	18 21 5	18	18 0 25	23	18 36 14	27	18 15 35	4	17 54 55	9	18 30 44	13	18 10 5	18	18 45 54
15	19 17 35	19	18 56 54	24	19 32 44	1	19 12 4	5	18 51 24	10	19 27 14	14	19 6 34	19	19 42 23
16	20 12 28	20	19 53 24	25	20 29 13	2	20 8 33	6	19 47 54	11	20 23 43	15	20 3 3	20	20 38 53
17	21 10 33	21	20 49 53	26	21 25 43	3	21 5 3	7	20 44 23	12	21 20 13	16	20 59 33	21	21 35 22
18	22 7 2	22	21 46 23	27	22 22 12	4	22 1 32	8	21 40 52	13	22 16 42	17	21 56 2	22	22 31 51
19	23 3 32	23	22 42 52	1	23 18 41	5	22 58 2	9	22 37 22	14	23 13 11	18	22 52 31	23	23 28 21
20	24 0 1	24	23 39 21	2	24 15 11	6	23 54 31	10	23 33 53	15	24 9 40	19	23 49 1	24	24 24 50
21	24 56 31	25	24 35 51	3	25 11 40	7	24 51 0	11	24 30 20	16	25 6 10	20	24 45 30	25	25 21 20
22	25 53 0	26	25 32 20	4	26 8 10	8	25 47 29	12	25 26 50	17	26 2 39	21	25 42 0	26	26 17 49
23	26 49 29	27	26 28 50	5	27 4 39	9	26 43 59	13	26 23 19	18	26 59 9	22	26 38 29	27	27 14 18
24	27 45 59	1	27 25 19	6	28 1 8	10	27 40 28	14	27 19 48	19	27 55 38	23	27 34 58	1	28 10 48
25	28 42 28	2	28 21 48	7	28 57 38	11	28 36 58	15	28 16 18	20	28 52 7	24	28 31 28	2	29 7 17
		3	29 18 17					16	29 12 47			25	29 27 57		

## TABLE XII.—EPHEMERIS FOR BENGAL.

Dates of Commencement of Bengal Solar Months, A. D. 1840 to A. D. 1920.

A.D.	Vaisakha (April)	Jyeshtha (May)	Ashadha (June)	Shravana (July)	Bhadrapada (August)	Asvina (September)	Kartika (October)	Margasira (November)	Pausa (December)	A.D.	Magha (January)	Phalguna (February)	Chaitra (March)	A.D.	Vaisakha (April)	Jyeshtha (May)	Ashadha (June)	Shravana (July)	Bhadrapada (August)	Asvina (September)	Kartika (October)	Margasira (November)	Pausa (December)	A.D.	Magha (January)	Phalguna (February)	Chaitra (March)
1840	12	13	13	15	15	15	16	15	14	41	13	11	13	1880	12	13	14	15	16	16	16	15	15	81	13	11	13
1841	12	13	14	15	16	16	16	15	14	42	13	11	13	1881	12	13	14	15	16	16	16	15	15	82	13	12	13
1842	12	13	14	15	16	16	16	15	15	43	13	11	13	1882	13	14	14	16	16	16	17	16	15	83	13	12	14
1843	13	14	14	16	16	16	17	15	15	44	13	12	13	1883	13	14	14	16	16	17	17	16	15	84	14	12	13
1844	12	13	13	15	15	15	16	15	14	45	13	11	13	1884	12	13	14	15	16	16	16	15	15	85	13	11	13
1845	12	13	14	15	16	16	16	15	15	46	13	11	13	1885	13	13	14	16	16	16	16	15	15	86	13	12	13
1846	12	13	14	15	16	16	16	15	15	47	13	12	13	1886	13	14	14	16	16	16	17	16	15	87	13	12	14
1847	13	14	14	16	16	16	17	16	15	48	13	12	13	1887	13	14	14	16	17	17	17	16	15	88	14	12	13
1848	12	13	13	15	15	15	16	15	14	49	13	11	13	1888	12	13	14	15	16	16	16	15	15	89	13	11	13
1849	12	13	14	15	16	16	16	15	15	50	13	11	13	1889	13	14	14	16	16	16	17	15	15	90	13	12	13
1850	12	13	14	15	16	16	16	15	15	51	13	12	13	1890	13	14	14	16	16	16	17	16	15	91	13	12	14
1851	13	14	14	16	16	16	17	16	15	52	13	12	13	1891	13	14	14	16	17	17	17	16	15	92	14	12	13
1852	12	13	13	15	15	15	16	15	14	53	13	11	13	1892	12	13	14	15	16	16	16	15	15	93	13	11	13
1853	12	13	14	15	16	16	16	15	15	54	13	11	13	1893	13	14	14	16	16	16	17	15	15	94	13	12	13
1854	13	13	14	16	16	16	16	15	15	55	13	12	13	1894	13	14	14	16	16	16	17	16	15	95	14	12	14
1855	13	14	14	16	16	16	17	16	15	56	13	12	13	1895	13	14	14	16	17	17	17	16	15	96	14	12	13
1856	12	13	13	15	16	16	16	15	14	57	13	11	13	1896	12	13	14	15	16	16	16	15	15	97	13	11	13
1857	12	13	14	15	16	16	16	15	15	58	13	11	13	1897	13	14	14	16	16	16	17	15	15	98	13	12	14
1858	13	13	14	16	16	16	16	15	15	59	13	12	13	1898	13	14	14	16	16	16	17	16	15	99	14	12	14
1859	13	14	14	16	16	16	17	16	15	60	13	12	13	1899	13	14	15	16	17	17	17	16	15	1900	14	12	14
1860	12	13	13	15	16	16	16	15	14	61	13	11	13	1900	13	14	15	16	17	17	17	16	16	01	14	12	14
1861	12	13	14	15	16	16	16	15	15	62	13	11	13	1901	14	15	15	17	17	17	18	17	16	02	14	13	15
1862	13	14	14	16	16	16	17	15	15	63	13	12	13	1902	14	15	15	17	17	17	18	17	16	03	15	13	15
1863	13	14	14	16	16	16	17	16	15	64	13	12	13	1903	14	15	16	17	18	18	18	17	17	04	15	13	14
1864	12	13	13	15	16	16	16	15	14	65	13	11	13	1904	13	14	15	16	17	17	17	16	16	05	14	13	14
1865	12	13	14	15	16	16	16	15	15	66	13	11	13	1905	14	15	15	17	17	17	18	17	16	06	14	13	15
1866	13	14	14	16	16	16	17	15	15	67	13	12	14	1906	14	15	15	17	17	17	18	17	16	07	15	13	15
1867	13	14	14	16	16	16	17	16	15	68	13	12	13	1907	14	15	16	17	18	18	18	17	17	08	15	13	14
1868	12	13	13	15	16	16	16	15	14	69	13	11	13	1908	13	14	15	16	17	17	17	16	16	09	14	13	14
1869	12	13	14	15	16	16	16	15	15	70	13	11	13	1909	14	15	15	17	17	17	18	17	16	10	14	13	15
1870	13	14	14	16	16	16	17	15	15	71	13	12	14	1910	14	15	15	17	17	17	18	17	16	11	15	13	15
1871	13	14	14	16	16	16	17	16	15	72	14	12	13	1911	14	15	16	17	18	18	18	17	17	12	15	13	14
1872	12	13	14	15	16	16	16	15	14	73	13	11	13	1912	14	14	15	17	17	17	17	16	16	13	14	13	14
1873	12	13	14	15	16	16	16	15	15	74	13	12	13	1913	14	15	15	17	17	17	18	17	16	14	14	13	15
1874	13	14	14	16	16	16	17	16	15	75	13	12	14	1914	14	15	15	17	18	18	18	17	16	15	15	13	15
1875	13	14	14	15	16	16	17	16	15	76	14	12	13	1915	14	15	16	17	18	18	18	17	17	16	15	13	14
1876	12	13	14	15	16	16	16	15	15	77	13	11	13	1916	14	14	15	17	17	17	17	16	16	17	14	13	14
1877	12	13	14	15	16	16	16	15	15	78	13	12	13	1917	14	15	15	17	17	17	18	17	16	18	14	13	15
1878	13	13	14	16	16	16	17	16	15	79	13	12	14	1918	14	15	15	17	18	18	18	17	16	19	15	13	15
1879	13	14	14	16	16	16	17	16	15	80	14	12	13	1919	14	15	16	17	18	18	18	17	17	20	15	13	14

NOTE.—It will be seen from a comparison of the above table with the General Ephemeris given below that solar months in Bengal seldom commence on the same day as in the Tamil and Malayalam countries. In the first place the Sankrantis which determine the commencement of solar months in Bengal are those fixed by the Surya Siddhanta, whereas in Southern India the solar months and their Sankrantis are reckoned according to the Arya Siddhanta.

Secondly, the rule in Bengal is that when the Sankranti occurs less than 45 ghatikas after sunrise, the civil solar month commences on the next day, and when the Sankranti occurs 45 ghatikas after Sunrise or later, the civil solar month commences two days after the date of the Sankranti. It follows from this rule that in Bengal the civil month never begins on the date of the Sankranti which in that province invariably belongs to the previous month whereas in Southern India, the civil month very often begins on the day of the Sankranti. In practice, the rule in Bengal appears to be to begin the Solar month on the third day after Sankranti when the fraction of day at which Sankranti occurs is  $\frac{70}{100}$  of a day or more. The above table has been constructed on this principle.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX-i, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



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		Tamil Month						Ending moment of New Moon		Mean		Actual		('s Anom. ☉'s Anom.			
Commence-ment of years in different eras.		Tamil month.		Beginning		End		Lunar month.		Week-day		Month		Day		Deduct for Nakshatras	
				Week-day		Month		Day		Week-day		Month		Day		Deduct for Yogas.	
<b>K. Y. 4951</b>	Chittirai ...	6 Ap	12	31	1 My	12	Vaisakha ...	5 Ap	11	53 41	12	28 57	20 19	17	0 12	43	
Sak. 1772	Vaikasi ...	2 My	13	31	4 Je	12	Jyeshtha ...	7 My	11	25 31	10	55 46	22 17	51	29 44	33	
Vik. 1907	Ani ...	5 Je	13	32	1 Ji	14	Ashada ...	1 Je	9	57 21	10	16 54	24 16	24	59 16	24	
(S.) Sadharana.	Adi ...	2 Ji	15	31	4 Au	14	Shravana ...	3 Ji	9	29 11	10	34 31	26 14	58	88 48	14	
K. 1025 (S. M.)	Avani ...	5 Au	15	31	7 S	14	Bhadrapada ...	5 Au	8	1 1	7	51 31	0 40	15	118 20	4	
K. 1025 (N. M.)	Purattasi ...	1 S	15	30	2 O	14	Asvina ...	6 S	6	32 51	10	10 39	2 38	49	147 51	54	
34 g., 47 p.	Aippasi ...	3 O	15	30	4 N	13	Kartika ...	1 O	6	4 41	5	33 56	4 37	22	177 23	44	
B. S. 1256	Kartigai ...	5 N	14	30	6 D	13	Margasira ...	2 N	4	36 31	...	3 16	6 35	56	206 55	34	
N. Durmati	Margali ...	7 D	14	29	7 Ja	11	Pausha ...	4 D	4	8 22	3	39 41	8 34	29	236 27	24	
<b>A. D. 1851</b>	Tai ...	1 Ja	12	30	2 F	10	Magha ...	5 Ja	2	40 12	...	22 55	10 33	3	265 59	14	
H. 1268	Masi ...	3 F	11	29	3 Mr	11	Phalguna ...	7 F	1	12 2	...	10 38	12 31	37	295 31	4	
Oct. 26, 27	Panguni ...	4 Mr	12	31	6 Ap	11	Chaitra ...	1 Mr	2	43 52	...	56 35	14 30	10	325 2	54	
<b>K. Y. 4952</b>	Chittirai ...	7 Ap	12	31	2 My	12	Vaisakha ...	4 Ap	30	47 32	My.1	19 56	18 27	17	18 51	4	
Sak. 1773	Vaikasi ...	3 My	13	31	5 Je	12	Jyeshtha ...	6 My	30	19 22	...	49 8	20 25	51	48 22	54	
Vik. 1908	Ani ...	6 Je	13	32	2 Ji	14	Ashada ...	7 Je	28	51 12	29	14 44	22 24	25	77 54	44	
(S.) Virodhakrit.	Adi ...	3 Ji	15	31	5 Au	14	Shravana ...	2 Ji	28	23 2	...	33 57	24 22	58	107 26	34	
K. 1026 (S. M.)	Avani ...	6 Au	15	31	1 S	14	Bhadrapada ...	3 Au	26	54 53	...	52 58	26 21	32	136 58	24	
K. 1026 (N. M.)	Purattasi ...	2 S	15	31	4 O	15	Asvina ...	5 S	25	26 43	...	12 53	0 46	49	166 30	14	
50 g., 19 p.	Aippasi ...	5 O	16	30	6 N	14	Kartika ...	6 O	24	58 33	...	35 50	2 45	22	196 2	4	
B. S. 1257	Kartigai ...	7 N	15	29	7 D	13	Margasira ...	1 N	23	30 23	...	3 12	4 43	56	225 33	54	
(N) Dundubhi	Margali ...	1 D	14	29	1 Ja	11	Pausha ...	3 D	23	2 13	22	36 7	6 42	30	255 5	44	
<b>A. D. 1852</b>	Tai ...	2 Ja	12	30	3 F	10	Magha ...	4 Ja	21	34 3	...	14 34	8 41	3	284 37	33	
H. 1269	Masi ...	4 F	11	30	5 Mr	11	Phalguna ...	6 F	20	5 53	19	57 23	10 39	37	314 9	23	
Oct. 15	Panguni ...	6 Mr	12	30	7 Ap	10	Chaitra ...	7 Mr	20	37 43	...	42 16	12 38	10	343 41	13	
<b>K. Y. 4953</b>	Chittirai ...	1 Ap	11	31	3 My	11	Vaisakha ...	2 Ap	19	9 34	...	25 56	14 36	44	7 57	39	
Sak. 1774	Vaikasi ...	4 My	12	31	6 Je	14	Jyeshtha ...	3 My	18	41 24	19	5 49	16 35	18	37 29	23	
Vik. 1909	Ani ...	7 Je	12	32	3 Ji	13	Ashada ...	5 Je	17	13 14	...	38 45	18 33	51	67 1	13	
(S.) Paridhavi.	Adi ...	4 Ji	14	31	6 Au	13	Shravana ...	6 Ji	16	45 4	17	6 52	20 32	25	96 33	4	
K. 1027 (S. M.)	Avani ...	7 Au	14	32	3 S	14	Bhadrapada ...	1 Au	15	16 54	...	31 27	22 30	58	126 4	54	
K. 1027 (N. M.)	Purattasi ...	4 S	15	30	5 O	14	Asvina ...	2 S	13	48 44	...	54 7	24 29	32	155 36	44	
5 g., 50 p.	Aippasi ...	6 O	15	30	7 N	13	Kartika ...	4 O	13	20 34	...	16 40	26 28	6	185 8	34	
B. S. 1258	Kartigai ...	1 N	14	29	1 D	12	Margasira ...	5 N	11	52 24	...	40 28	0 53	23	214 40	24	
(N) Rudhiraogar.	Margali ...	2 D	13	30	3 Ja	11	Pausha ...	7 D	11	24 14	...	6 50	2 51	59	244 12	14	
<b>A. D. 1853</b>	Tai ...	4 Ja	12	29	4 F	9	Magha ...	1 Ja	9	56 5	...	36 44	4 50	30	273 44	4	
H. 1270	Masi ...	5 F	10	30	6 Mr	11	Phalguna ...	3 F	8	27 55	...	10 3	6 49	3	303 15	54	
Oct. 4	Panguni ...	7 Mr	12	30	1 Ap	10	Chaitra ...	5 Mr	10	0 0	9	46 45	8 47	37	332 47	45	
<b>K. Y. 4954</b>	Chittirai ...	2 Ap	11	31	4 My	11	Vaisakha ...	1 My	8	3 25	...	6 32	12 44	44	26 35	55	
Sak. 1775	Vaikasi ...	5 My	12	32	1 Je	12	Jyeshtha ...	2 Je	6	35 15	...	45 58	14 43	18	56 7	45	
Vik. 1910	Ani ...	2 Je	13	31	4 Ji	13	Ashada ...	4 Ji	6	7 5	...	22 33	16 41	51	85 39	35	
(S.) Pramadi	Adi ...	5 Ji	14	32	1 Au	14	Shravana ...	5 Au	4	38 55	...	55 47	18 40	25	115 11	24	
K. 1028 (S. M.)	Avani ...	2 Au	15	31	4 S	14	Bhadrapada ...	7 S	3	10 46	...	25 57	20 38	59	144 43	14	
K. 1028 (N. M.)	Purattasi ...	5 S	15	30	6 O	14	Asvina ...	1 O	2	42 36	...	53 54	22 37	32	174 15	4	
21 g., 21 p.	Aippasi ...	7 O	15	30	1 N	13	Kartika ...	3 N	1	14 26	...	20 26	24 36	6	203 46	54	
B. S. 1259	Kartigai ...	2 N	14	30	3 D	13	Margasira ...	4 N	30	46 6	...	46 20	26 34	39	233 18	44	
(N) Raktaksha.	Margali ...	4 D	14	29	4 Ja	11	Pausha ...	6 D	30	18 6	...	12 52	0 59	56	262 50	34	
<b>A. D. 1854</b>	Tai ...	5 Ja	12	29	5 F	9	Magha ...	7 Ja	28	49 56	...	40 55	2 58	30	292 22	24	
H. 1271	Masi ...	6 F	10	30	7 Mr	11	Phalguna ...	2 F	27	21 46	...	9 42	4 57	4	321 54	14	
Sep. 24	Panguni ...	1 Mr	12	31	3 Ap	11	Chaitra ...	3 Mr	28	53 36	...	39 38	6 55	37	351 26	4	
<b>K. Y. 4955</b>	Chittirai ...	4 Ap	12	31	6 My	12	Vaisakha ...	5 Ap	27	25 26	...	12 20	8 54	11	15 42	23	
Sak. 1776	Vaikasi ...	7 My	13	31	2 Je	12	Jyeshtha ...	6 My	26	57 16	...	47 31	10 52	44	45 14	13	
Vik. 1911	Ani ...	3 Je	13	32	6 Ji	14	Ashada ...	1 Je	25	29 6	...	24 34	12 51	18	74 46	3	
(S.) Ananda	Adi ...	7 Ji	15	31	2 Au	14	Shravana ...	3 Ji	25	0 57	...	2 42	14 49	52	104 17	53	
K. 1029 (S. M.)	Avani ...	3 Au	15	31	5 S	14	Bhadrapada ...	4 Au	23	32 47	...	40 36	16 43	25	133 49	44	
K. 1029 (N. M.)	Purattasi ...	6 S	15	31	1 O	15	Asvina ...	6 S	22	4 37	...	17 4	18 46	59	163 21	34	
36 g., 52 p.	Aippasi ...	2 O	16	29	2 N	13	Kartika ...	7 O	21	36 27	...	52 8	20 45	32	192 53	24	
B. S. 1260	Kartigai ...	3 N	14	30	4 D	13	Margasira ...	2 N	20	8 17	...	23 58	22 44	6	222 25	14	
(N) Krodhana.	Margali ...	5 D	14	29	5 Ja	11	Pausha ...	3 D	19	40 7	...	52 13	24 42	40	251 57	4	
<b>A. D. 1855</b>	Tai ...	6 Ja	12	30	7 F	10	Magha ...	5 Ja	18	11 58	...	19 35	26 41	13	281 28	54	
H. 1272	Masi ...	1 F	11	30	2 Mr	12	Phalguna ...	6 F	16	43 48	...	45 15	1 6	30	311 0	44	
Sep. 13	Panguni ...	3 Mr	13	30	4 Ap	11	Chaitra ...	1 Mr	18	15 38	...	10 15	9 5	4	340 32	34	

**TABLE XII.—General Ephemeris A.D. 1855—A.D. 1860.**

Tamil Month										New Moon																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Beginning						End				Ending moment of New Moon Tithi										( 's Anom. ) 's Anom.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Commence-ment of years in different eras.						Tamil month.				Week-day				Month				Day (mean)		Ghatikas		Palas		Day (actual)		Ghatikas		Palas		Day		Ghatikas		Palas		Day		Ghatikas		Palas		Deduct for Nakshatras		Deduct for Yogas.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Week-day						Month				Day				Last Day				Week-day				Month				Day		Lunar month.				Week-day				Month				Day (mean)		Ghatikas		Palas		Day (actual)		Ghatikas		Palas		Day		Ghatikas		Palas		Deduct for Nakshatras		Deduct for Yogas.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
K. Y. 4956						Chittirai...				5 Ap 12 31				7 My 12				Vaisakha ...				2 Ap 16				47 28 ...				35 30		5 3 38		4 48 53																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</	

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TABLE XII.—General Ephemeris A.D. 1860—A.D. 1865.

New Moon  
Ending moment  
of New Moon Tithi. ( 's Anom. ☉'s Anom.  
Mean Actual

Tamil Month										Mean										Actual										
Commence- ment of years in dif- ferent eras.	Tamil month.	Beginning				End				Lunar month.	Week-day			Week-day			Ghatikas			Ghatikas			Day			Day			Deduct for Nakshatras	Deduct for Yogas.
		Week-day	Month	Day	Last Day	Week-day	Month	Day	Month		Day (mean)	Month	Day (actual)	Month	Day	Month	Day	Month	Day	Month	Day	Month	Day	Month	Day					
K. Y. 4961	Chittirai	4 Ap	11	31	6 My	11	Vaisakha	6 Ap	20	41 15 21	11 11	17 21 5	9 25 3																	
Sak. 1782	Vaikasi	7 My	12	31	2 Je	11	Jyeshtha	1 My	20	13 5 ...	44 34	19 19 40	38 56 53																	
Vik. 1917	Ani	3 Je	12	32	6 Ji	13	Ashada	2 Je	18	44 55 19	11 17	21 18 14	68 28 43																	
(S.) Raudra	Adi	7 Ji	14	32	3 Au	14	Sravana	4 Ji	18	16 45 ...	33 16	23 16 48	98 0 33																	
K. 1035 (S. M.)	Avani	4 Au	15	31	6 S	14	Bhadrapada	5 Au	16	48 35 ...	52 58	25 15 22	127 32 23																	
K. 1035 (N. M.)	Purattasi	7 S	15	30	1 O	14	Asvina	7 S	15	20 25 ...	12 39	27 13 55	157 4 13																	
10 g., 0 p.	Aippasi	2 O	15	30	3 N	13	Kartika	1 O	14	52 16 ...	34 16	1 39 12	186 36 3																	
B. S. 1266	Kartigai	4 N	14	29	4 D	12	Margasira	3 N	13	24 6 12	59 33	3 37 46	216 7 53																	
(N.) Angiras	Margali	5 D	13	30	6 Ja	11	Pausa	4 D	12	55 56 ...	29 41	5 36 19	245 39 43																	
A. D. 1861	Tai	7 Ja	12	29	7 F	9	Magha	7 F	9	59 36 ...	45 37	9 33 27	304 23 24																	
H. 1278	Masi	1 F	10	30	2 Mr	11	Phalguna	2 Mr	11	31 26 ...	29 10	11 32 0	334 15 14																	
July 9	Panguni	3 Mr	12	30	4 Ap	10	Chaitra	4 Ap	10	3 16 ...	13 18	13 30 36	363 47 4																	
K. Y. 4962	Chittirai	5 Ap	11	31	7 My	11	Vaisakha	5 My	9	35 6 ...	54 39	15 29 7	28 3 23																	
Sak. 1783	Vaikasi	1 My	12	32	4 Je	12	Jyeshtha	7 Je	8	6 57 ...	31 1	17 27 41	57 35 13																	
Vik. 1918	Ani	5 Je	13	31	7 Ji	13	Ashada	1 Ji	7	39 47 ...	1 54	19 26 15	87 7 3																	
(S.) Durmati	Adi	1 Ji	14	32	4 Au	14	Sravana	3 Au	6	10 37 ...	28 29	21 21 48	116 38 53																	
K. 1036 (S. M.)	Avani	5 Au	15	31	7 S	14	Bhadrapada	4 S	4	42 27 ...	52 29	23 23 22	146 10 43																	
K. 1036 (N. M.)	Purattasi	1 S	15	30	2 O	14	Asvina	6 O	4	14 17 ...	15 30	25 21 55	175 42 33																	
25 g., 31 p.	Aippasi	3 O	15	30	4 N	13	Kartika	7 N	2	46 7 ...	39 0	27 20 29	205 14 23																	
B. S. 1267	Kartigai	5 N	14	30	6 D	13	Margasira	2 D	2	17 57 ...	4 16	1 45 46	234 46 13																	
(N.) Srimukha	Margali	7 D	14	30	7 Ja	11	Pausa	3 D	31	49 47 ...	32 19	3 44 20	264 18 3																	
A. D. 1862	Tai	1 Ja	12	30	2 F	10	Magha	5 Ja	30	21 38 ...	3 35	5 42 53	293 49 53																	
H. 1279	Masi	3 F	11	29	3 Mr	11	Phalguna	6 F	28	53 28 ...	38 5	7 41 27	323 21 44																	
June 28, 29	Panguni	4 Mr	12	31	6 Ap	11	Chaitra	1 Mr	30	25 18 ...	15 29	9 40 0	352 53 34																	
K. Y. 4963	Chittirai	7 Ap	12	31	2 My	12	Vaisakha	2 Ap	28	57 8 ...	54 51	11 38 34	17 9 53																	
Sak. 1784	Vaikasi	3 My	13	31	5 Je	12	Jyeshtha	4 My	28	28 58 ...	34 33	13 37 8	46 41 43																	
Vik. 1919	Ani	6 Je	13	32	2 Ji	14	Ashada	6 Je	27	0 48 ...	12 37	15 35 41	76 13 33																	
(S.) Dundubhi	Adi	3 Ji	15	31	5 Au	14	Sravana	7 Ji	26	32 38 ...	47 57	17 34 15	105 45 23																	
K. 1037 (S. M.)	Avani	6 Au	15	31	1 S	14	Bhadrapada	2 Au	25	4 29 ...	20 7	19 32 48	135 17 13																	
K. 1037 (N. M.)	Purattasi	2 S	15	31	4 O	15	Asvina	3 S	23	36 19 ...	49 49	21 31 22	164 49 3																	
41 g., 2 p.	Aippasi	5 O	16	29	5 N	13	Kartika	5 O	23	8 9 ...	17 36	23 29 56	194 20 53																	
B. S. 1268	Kartigai	6 N	14	30	7 D	13	Margasira	6 N	21	39 59 ...	44 19	25 28 29	223 52 43																	
(N.) Bhava	Margali	1 D	14	29	1 Ja	11	Pausa	1 D	21	11 49 ...	10 42	27 27 3	253 24 33																	
A. D. 1863	Tai	2 Ja	12	30	3 F	10	Magha	2 Ja	19	43 39 ...	37 26	1 52 20	282 56 23																	
H. 1280	Masi	4 F	11	30	5 Mr	12	Phalguna	4 F	18	15 29 ...	5 0	3 50 54	312 28 13																	
June 18	Panguni	6 Mr	12	30	7 Ap	11	Chaitra	5 Mr	19	47 19 ...	33 58	5 49 27	342 0 3																	
K. Y. 4964	Chittirai	1 Ap	12	31	3 My	12	Vaisakha	7 Ap	18	19 9 ...	4 46	7 48 1	6 16 22																	
Sak. 1785	Vaikasi	4 My	13	31	6 Je	12	Jyeshtha	1 My	17	50 59 ...	38 10	9 46 34	35 43 12																	
Vik. 1920	Ani	7 Je	13	32	3 Ji	14	Ashada	3 Je	16	22 50 ...	13 51	11 45 8	65 20 2																	
(S.) Rudhigari.	Adi	4 Ji	15	31	6 Au	14	Sravana	4 Ji	15	54 40 ...	51 25	13 43 42	94 51 53																	
K. 1038 (S. M.)	Avani	7 Au	15	31	2 S	14	Bhadrapada	6 Au	14	26 30 ...	29 58	15 42 15	124 23 43																	
K. 1038 (N. M.)	Purattasi	3 S	15	31	5 O	15	Asvina	7 S	12	58 20 13	9 56	17 40 49	133 55 33																	
56 g., 34 p.	Aippasi	6 O	16	30	7 N	14	Kartika	2 O	12	30 10 ...	44 4	19 39 22	183 27 23																	
B. S. 1269	Kartigai	1 N	15	29	1 D	13	Margasira	4 N	11	2 0 ...	17 40	21 37 56	212 59 13																	
(N.) Yuva	Margali	2 D	14	30	3 Ja	12	Pausa	5 D	10	33 50 ...	48 43	23 36 30	242 31 3																	
A. D. 1864	Tai	4 Ja	13	29	4 F	10	Magha	7 Ja	9	5 40 ...	17 14	25 35 3	272 2 53																	
H. 1281	Masi	5 F	11	30	6 Mr	11	Phalguna	1 F	7	37 30 ...	43 32	0 0 20	301 34 43																	
June 6	Panguni	7 Mr	12	30	1 Ap	10	Chaitra	3 Mr	8	9 21 ...	8 20	1 53 54	331 6 33																	
K. Y. 4965	Chittirai	2 Ap	11	31	4 My	11	Vaisakha	6 My	6	13 1 ...	50 57 51	5 56 1	24 54 42																	
Sak. 1786	Vaikasi	5 My	12	32	1 Je	12	Jyeshtha	7 Je	4	44 51 ...	25 3	7 54 35	54 26 32																	
Vik. 1921	Ani	2 Je	13	31	4 Ji	13	Ashada	2 Ji	4	16 41 ...	55 38	9 53 8	83 58 22																	
(S.) Raktaksha.	Adi	5 Ji	14	32	1 Au	14	Sravana	3 Au	2	48 31 ...	30 44	11 51 42	113 30 13																	
K. 1039 (S. M.)	Avani	2 Au	15	31	4 S	14	Bhadrapada	5 S	1	20 21 ...	10 53	13 50 15	143 2 3																	
K. 1039 (N. M.)	Purattasi	5 S	15	30	6 O	14	Asvina	6 S	30	52 11 ...	53 12	15 48 49	172 33 53																	
12 g., 5 p.	Aippasi	7 O	15	30	1 N	13	Kartika	1 O	30	24 1 ...	34 57	17 47 23	202 5 43																	
B. S. 1270	Kartigai	2 N	14	3																										

TABLE XII.—General Ephemeris A.D. 1865—A.D. 1870.

Commence- ment of years in dif- ferent eras.	Tamil month.	Tamil Month						Lunar month.	New Moon										Deduct for Nakshatras	Deduct for years		
		Beginning			End				Ending moment of New Moon Tithi.		( 's Anom. °s Anom.											
		Week-day	Month	Day	Week-day	Month	Day		Week-day	Month	Day (mean)	Mean		Day (actual)	Actual		Day	Ghatikas	Palas			
												Ghatikas	Palas		Ghatikas	Palas			Ghatikas		Palas	
<b>K. Y. 1866</b>	Chittirai	3 Ap	11	31	5 M	11	Vaisakha	3 Ap	25	35	2	...	34	12	2	5	28	14	1	12		
Sak. 1787	Vaikasi	6 My	12	32	2 Je	12	Jyeshtha	5 My	25	6	52	24	54	5	4	4	1	43	33	2		
Vik. 1922	Ani	3 Je	13	31	5 JI	13	Ashada	6 Je	23	38	42	...	16	11	6	2	35	73	4	52		
(S.) Krodhana.	Adi	6 JI	14	32	2 Au	14	Sravana	1 JI	23	10	33	22	42	0	8	1	8	102	36	42		
K. 1040 (S. M.)	Avani	3 Au	15	31	5 S	14	Bhadrachada	2 Au	21	42	23	...	13	32	9	59	41	132	8	32		
K. 1040 (N. M.)	Purattasi	6 S	15	30	7 O	14	Asvina	4 S	20	14	13	19	52	28	11	58	16	161	40	22		
27 g., 36 p.	Aippasi	1 O	15	30	2 N	13	Kartika	5 O	19	46	3	...	35	55	13	56	49	191	12	13		
B. S. 1271	Kartigai	3 N	14	30	4 D	13	Margasira	7 N	18	17	53	...	22	44	15	55	23	220	44	3		
(N.) Isvara	Margali	5 D	14	29	5 Ja	11	Pausa	1 D	17	49	43	18	8	18	17	53	56	250	15	53		
<b>A. D. 1866</b>	Tai	6 Ja	12	30	7 F	10	Magha	3 Ja	16	21	33	...	49	20	19	52	30	279	47	43		
H. 1283	Masi	1 F	11	29	1 Mr	11	Phalguna	4 F	14	53	23	15	24	8	21	51	4	309	19	33		
May 16	Panguni	2 Mr	12	31	4 Ap	11	Chaitra	6 Mr	16	25	14	...	54	14	23	49	37	338	51	23		
<b>K. Y. 1867</b>	Chittirai	5 Ap	12	31	7 My	12	Vaisakha	7 Ap	14	57	4	15	15	36	25	48	11	3	7	42		
Sak. 1788	Vaikasi	1 My	13	31	3 Je	12	Jyeshtha	2 My	14	28	54	...	34	56	0	13	28	32	39	32		
Vik. 1923	Ani	4 Je	13	32	7 JI	14	Ashada	4 Je	13	0	44	12	52	42	2	12	2	62	11	22		
(S.) Kshaya	Adi	1 JI	15	31	3 Au	14	Sravana	5 JI	12	32	34	...	11	23	4	10	35	91	43	12		
K. 1041 (S. M.)	Avani	4 Au	15	31	6 S	14	Bhadrachada	7 Au	11	4	24	10	33	33	6	9	9	121	15	2		
K. 1041 (N. M.)	Purattasi	7 S	15	31	2 O	15	Asvina	1 S	9	36	14	...	1	42	8	7	42	150	46	52		
43 g., 7 p.	Aippasi	3 O	16	30	4 N	14	Kartika	3 O	9	8	4	8	37	52	10	6	16	180	18	42		
B. S. 1272	Kartigai	5 N	15	29	5 D	13	Margasira	4 N	7	39	54	...	20	18	12	4	49	209	50	33		
(N.) Bahudhanya	Margali	6 D	14	29	6 Ja	11	Pausa	6 D	7	11	45	...	8	44	14	3	23	239	22	23		
<b>A. D. 1867</b>	Tai	7 Ja	12	30	1 F	10	Magha	7 Ja	5	43	35	...	53	2	16	1	57	268	54	13		
H. 1284	Masi	2 F	11	30	3 Mr	12	Phalguna	2 F	4	15	25	...	43	20	18	0	30	298	26	3		
May 5	Panguni	4 Mr	13	30	5 Ap	11	Chaitra	3 Mr	5	47	15	6	21	40	19	59	4	327	57	53		
<b>K. Y. 1868</b>	Chittirai	6 Ap	12	31	1 My	12	Vaisakha	6 My	3	50	55	4	16	39	23	56	11	21	46	2		
Sak. 1789	Vaikasi	2 My	13	31	4 Je	12	Jyeshtha	1 Je	2	22	45	...	35	59	25	54	44	51	17	52		
Vik. 1924	Ani	5 Je	13	32	1 JI	14	Ashada	2 JI	1	54	35	...	52	48	0	20	2	80	49	42		
(S.) Prabhava	Adi	2 JI	15	31	4 Au	14	Sravana	4 JI	31	26	25	...	9	53	2	18	35	110	21	32		
K. 1042 (S. M.)	Avani	5 Au	15	31	7 S	14	Bhadrachada	5 Au	29	58	16	...	30	2	4	17	19	139	53	23		
K. 1042 (N. M.)	Purattasi	1 S	15	31	3 O	15	Asvina	7 S	28	30	6	27	55	28	6	15	42	169	25	13		
58 g., 39 p.	Aippasi	4 O	16	30	5 N	14	Kartika	2 O	23	1	56	27	27	57	8	14	16	198	57	3		
B. S. 1273	Kartigai	6 N	15	29	6 D	13	Margasira	3 N	26	33	46	...	8	8	10	12	50	228	28	53		
(N.) Pramathin.	Margali	7 D	14	30	1 Ja	12	Pausa	5 D	26	5	36	25	58	33	12	11	23	258	0	43		
<b>A. D. 1868</b>	Tai	2 Ja	13	29	2 F	10	Magha	6 Ja	24	37	26	...	44	45	14	9	57	287	32	33		
H. 1285	Masi	3 F	11	30	4 Mr	11	Phalguna	1 F	23	9	16	...	32	24	16	8	30	317	4	23		
April 24	Panguni	5 Mr	12	30	6 Ap	10	Chaitra	2 Mr	23	41	6	24	13	56	18	7	4	346	36	13		
<b>K. Y. 1869</b>	Chittirai	7 Ap	11	31	2 My	11	Vaisakha	4 Ap	22	12	57	...	47	46	20	5	38	10	52	32		
Sak. 1790	Vaikasi	3 My	12	32	6 Je	12	Jyeshtha	5 My	21	44	47	22	14	8	22	4	12	40	24	22		
Vik. 1925	Ani	7 Je	13	32	2 JI	13	Ashada	7 Je	20	16	37	...	35	39	24	2	45	69	56	12		
(S.) Vibhava	Adi	3 JI	14	32	6 Au	14	Sravana	1 JI	19	48	27	...	53	9	26	1	18	99	28	2		
K. 1043 (S. M.)	Avani	7 Au	15	31	2 S	14	Bhadrachada	3 Au	18	20	17	...	10	41	0	26	35	128	59	52		
K. 1043 (N. M.)	Purattasi	3 S	15	30	4 O	14	Asvina	4 S	16	52	7	...	31	33	2	25	9	158	31	42		
14 g., 10 p.	Aippasi	5 O	15	30	6 N	13	Kartika	6 O	16	23	57	15	54	19	4	23	43	188	3	32		
B. S. 1274	Kartigai	7 N	14	30	1 D	13	Margasira	7 N	14	55	48	...	24	14	6	22	16	217	35	23		
(N.) Vikrama	Margali	2 D	14	29	2 Ja	11	Pausa	2 D	14	27	38	...	0	31	8	20	50	247	7	13		
<b>A. D. 1869</b>	Tai	3 Ja	12	29	3 F	9	Magha	3 Ja	12	59	28	...	43	22	10	19	24	276	39	3		
H. 1286	Masi	4 F	10	30	5 Mr	11	Phalguna	5 F	11	31	18	...	30	16	12	17	59	306	10	53		
April 13	Panguni	6 Mr	12	30	7 Ap	10	Chaitra	7 Mr	13	3	8	...	17	27	14	16	31	335	42	43		
<b>K. Y. 1870</b>	Chittirai	1 Ap	11	31	3 My	11	Vaisakha	1 Ap	11	34	58	12	0	43	16	15	4	365	14	33		
Sak. 1791	Vaikasi	4 My	12	32	7 Je	12	Jyeshtha	3 My	11	6	48	...	37	31	18	13	38	29	30	52		
Vik. 1926	Ani	1 Je	13	31	3 JI	13	Ashada	4 Je	9	38	39	10	7	16	20	12	12	59	2	42		
(S.) Sukla	Adi	4 JI	14	32	7 Au	14	Sravana	6 JI	9	10	29	...	31	40	22	10	45	88	34	32		
K. 1044 (S. M.)	Avani	1 Au	15	31	3 S	14	Bhadrachada	7 Au	7	42	19	...	53	11	24	9	19	118	6	22		
K. 1044 (N. M.)	Purattasi	4 S	15	30	5 O	14	Asvina	2 S	6	14	9	...	12	31	26	7	52	147	38	12		
29 g., 41 p.	Aippasi	6 O	15	30	7 N	13	Kartika	3 O	5	45	59	...	33	22	0	33	9	177	10	2		
B. S. 1275	Kartigai	1 N	14	30	2 D	13	Margasira	5 N	4	17	49	3	56	57	2	31	43	206	41	52		
(N.) Vrisha	Margali	2 D	14	29	3 Ja	11	Pausa	6 D	3	49	39	...	24	46	4	30	17	236	13	43		
<b>A. D. 1870</b>	Tai	4 Ja	12	30	5 F	10	Magha	1 Ja	2	21	29	1	57	38	6	28	50	265	45	33		
H. 1287	Masi	6 F	11	29	6 Mr	11	Phalguna	2 Ja	31	53	19	...	35	14	8	27	24	295	17	23		
April 2, 3	Panguni	7 Mr	12	31	2 Ap	11	Chaitra	4 Mr	2	25	9	...	16	50	10	25	57	324	49	13		
									5 Mr	31	56	59	Ap. 1.	0	21	12	24	31	354	21	3	

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.											
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
	11	39	44			89	27	16	8	58	0
Sum - 18 gh. 15 p.											
	-	18	15			(☉'s Yoga Eqn.) +			1	25	
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX-i, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XII.—General Ephemeris A.D. 1885—A.D. 1890.

New Moon  
Ending moment  
of New Moon Tithi. ( 's Anom. ☉'s Anom.  
Mean Actual

		Tamil Month				Tamil Month				of New Moon Tithi.				Mean				Actual				('s Anom. 's Anom.					
		Beginning		End																							
Commence- ment of years in dif- ferent eras.	Tamil month.	Week-day	Month	Day	Last Day	Week-day	Month	Day	Lunar month.	Week-day	Month	Day (mean)	Ghatikas	Palas	Day (actual)	Ghatikas	Palas	Day	Ghatikas	Palas	Day	Ghatikas	Palas	Deduct for Nakshatras	Deduct for Yogas.		
<b>K. Y. 4986</b>	Chittirai ...	1 Ap	12	31	3 My	12	Vaisakha ...	3 Ap	14	38 21 15	12 35	21 43 57	2 54 1														
Sak. 1807	Vaikasi ...	4 My	13	31	6 Je	12	Jyeshtha ...	5 My	14	10 11 ...	35 45	23 42 30	32 25 51														
Vik. 1942	Ani ...	7 Je	13	32	3 Ji	14	Ashada ...	6 Je	12	42 1 ...	54 42	25 41 4	61 57 41														
(S.) Parthiva	Adi ...	4 Ji	15	31	6 Au	14	Sravana ...	1 Ji	12	13 51 ...	11 26	0 6 21	91 29 31														
K. 1060 (S. M.)	Avani ...	7 Au	15	31	2 S	14	Bhadrapada ...	2 Au	10	45 41 ...	28 46	2 4 54	121 1 21														
K. 1060 (N. M.)	Purattasi ...	3 S	15	31	5 O	15	Asvina ...	4 S	9	17 32 8	49 20	4 3 28	150 33 11														
38 g., 1 p.	Aippasi ...	6 O	16	29	6 N	13	Kartika ...	5 O	8	49 22 ...	15 13	6 2 2	180 5 1														
B. S. 1291	Kartigai ...	7 N	14	30	1 D	13	Margasira ...	7 N	7	21 12 6	48 2	8 0 35	209 36 51														
(N.) Hemalamba.	Margali ...	2 D	14	29	2 Ja	11	Pausha ...	1 D	6	53 2 ...	28 24	9 59 9	239 8 41														
<b>A. D. 1886</b>	Tai ...	3 Ja	12	30	4 F	10	Magha ...	3 Ja	5	24 52 ...	15 5	11 57 42	268 40 31														
H. 1304	Masi ...	5 F	11	30	6 Mr	12	Phalguna ...	4 F	3	56 42 4	4 29	13 56 16	298 12 22														
Sep. 30	Panguni ...	7 Mr	13	30	1 Ap	11	Chaitra ...	6 Mr	5	28 32 ...	51 38	15 54 50	327 44 12														
<b>K. Y. 4987</b>	Chittirai ...	2 Ap	12	31	4 My	12	Vaisakha ...	2 My	3	32 13 4	6 4	19 51 51	21 32 21														
Sak. 1808	Vaikasi ...	5 My	13	31	7 Je	12	Jyeshtha ...	4 Je	2	4 3 ...	32 28	21 50 30	51 4 11														
Vik. 1943	Ani ...	1 Je	13	32	4 Ji	14	Ashada ...	5 Ji	1	35 53 ...	53 37	23 49 4	80 36 1														
(S.) Vyasa	Adi ...	5 Ji	15	32	7 Au	14	Sravana ...	7 Ji	31	7 43 ...	11 53	25 47 38	110 7 51														
K. 1061 (S. M.)	Avani ...	1 Au	15	31	3 S	14	Bhadrapada ...	1 Au	29	39 33 ...	30 13	0 12 55	139 39 41														
K. 1061 (N. M.)	Purattasi ...	4 S	15	31	6 O	15	Asvina ...	3 S	28	11 23 27	50 29	2 11 28	169 11 31														
53 g., 32 p.	Aippasi ...	7 O	16	30	1 N	14	Kartika ...	4 O	27	43 18 ...	14 58	4 10 2	198 43 21														
B. S. 1292	Kartigai ...	2 N	15	29	2 D	13	Margasira ...	6 N	26	15 3 25	45 5	6 8 36	228 15 11														
(N.) Vilamba	Margali ...	3 D	14	30	4 Ja	12	Pausha ...	7 D	25	46 53 ...	21 21	8 7 9	257 47 1														
<b>A. D. 1887</b>	Tai ...	5 Ja	13	29	5 F	10	Magha ...	2 Ja	24	18 44 ...	3 46	10 5 43	287 18 51														
H. 1305	Masi ...	6 F	11	30	7 Mr	12	Phalguna ...	3 F	22	50 34 ...	49 39	12 4 16	316 50 41														
Sep. 19	Panguni ...	1 Mr	13	30	2 Ap	11	Chaitra ...	5 Mr	24	22 24 ...	35 46	14 2 50	346 22 31														
<b>K. Y. 4988</b>	Chittirai ...	3 Ap	12	31	5 My	12	Vaisakha ...	6 Ap	22	54 14 23	18 18	16 1 24	10 38 51														
Sak. 1809	Vaikasi ...	6 My	13	32	1 Je	12	Jyeshtha ...	1 My	22	26 4 ...	54 44	17 59 57	40 10 41														
Vik. 1944	Ani ...	2 Je	13	31	5 Ji	14	Ashada ...	2 Je	20	57 54 21	24 40	19 58 31	69 42 31														
(S.) Sarvajit	Adi ...	6 Ji	15	32	2 Au	15	Sravana ...	4 Ji	20	29 44 ...	49 31	21 57 4	99 14 21														
K. 1062 (S. M.)	Avani ...	3 Au	16	31	5 S	15	Bhadrapada ...	6 Au	19	1 34 ...	11 20	23 55 37	128 46 11														
K. 1062 (N. M.)	Purattasi ...	6 S	16	30	7 O	15	Asvina ...	7 S	17	33 25 ...	32 19	25 54 12	158 18 1														
9 g., 4 p.	Aippasi ...	1 O	16	30	2 N	14	Kartika ...	2 O	17	5 15 16	54 8	0 19 29	187 49 51														
B. S. 1293	Kartigai ...	3 N	15	29	3 D	13	Margasira ...	3 N	15	37 5 ...	18 25	2 18 2	217 21 41														
(N.) Vikarin	Margali ...	4 D	14	30	5 Ja	12	Pausha ...	5 D	15	8 55 14	46 30	4 16 36	246 53 31														
<b>A. D. 1888</b>	Tai ...	6 Ja	13	29	6 F	10	Magha ...	6 Ja	13	40 45 ...	19 0	6 15 9	276 25 21														
H. 1306	Masi ...	7 F	11	30	1 Mr	11	Phalguna ...	1 F	12	12 35 11	55 45	8 13 43	305 57 11														
Sep. 7	Panguni ...	2 Mr	12	30	3 Ap	10	Chaitra ...	2 Mr	12	44 25 ...	36 1	10 12 17	335 29 2														
<b>K. Y. 4989</b>	Chittirai ...	4 Ap	11	31	6 My	11	Vaisakha ...	5 My	10	48 5 ...	59 37	14 9 24	29 17 11														
Sak. 1810	Vaikasi ...	7 My	12	32	3 Je	12	Jyeshtha ...	7 Je	9	19 55 ...	38 29	16 7 57	58 49 1														
Vik. 1945	Ani ...	4 Je	13	31	6 Ji	13	Ashada ...	1 Ji	8	51 46 9	11 58	18 6 31	88 20 51														
(S.) Sarvadhari.	Adi ...	7 Ji	14	32	3 Au	14	Sravana ...	3 Au	7	23 36 ...	41 51	20 5 5	117 52 41														
K. 1063 (S. M.)	Avani ...	4 Au	15	31	6 S	14	Bhadrapada ...	4 S	5	55 26 6	8 56	22 3 38	147 24 31														
K. 1063 (N. M.)	Purattasi ...	7 S	15	30	1 O	14	Asvina ...	6 O	5	27 16 ...	34 7	24 2 12	176 56 21														
24 g., 35 p.	Aippasi ...	2 O	15	30	3 N	13	Kartika ...	7 N	3	59 6 ...	58 52	26 0 45	206 28 11														
B. S. 1294	Kartigai ...	4 N	14	30	5 D	13	Margasira ...	2 D	3	30 56 ...	24 13	0 26 2	236 0 1														
(N.) Sarvari	Margali ...	6 D	14	29	6 Ja	11	Pausha ...	4 Ja	2	2 46 10	50 11	2 24 36	265 31 51														
<b>A. D. 1889</b>	Tai ...	7 Ja	12	30	1 F	10	Magha ...	5 Ja	31	34 37 ...	20 3	4 23 10	295 8 41														
H. 1307	Masi ...	2 F	11	29	2 Mr	11	Phalguna ...	7 Mr	2	6 27 1	51 20	6 21 43	324 35 31														
Aug. 28.	Panguni ...	3 Mr	12	31	5 Ap	11	Chaitra ...	1 Mr	31	38 17 ...	25 10	8 20 17	354 7 21														
<b>K. Y. 4990</b>	Chittirai ...	6 Ap	12	31	1 My	12	Vaisakha ...	3 Ap	30	10 7 ...	1 23	10 18 50	18 23 41														
Sak. 1811	Vaikasi ...	2 My	13	31	4 Je	12	Jyeshtha ...	4 My	29	41 57 ...	39 13	12 17 24	47 55 31														
Vik. 1946	Ani ...	5 Je	13	32	1 Ji	14	Ashada ...	6 Je	28	18 47 ...	17 29	14 15 58	77 27 21														
(S.) Virodhi	Adi ...	2 Ji	15	31	4 Au	14	Sravana ...	7 Ji	27	45 37 ...	54 47	16 14 31	106 59 11														
K. 1064 (S. M.)	Avani ...	5 Au	15	31	7 S	14	Bhadrapada ...	2 Au	26	17 27 ...	30 14	18 13 4	136 31 1														
K. 1064 (N. M.)	Purattasi ...	1 S	15	31	3 O	15	Asvina ...	3 S	24	49 17 25	3 23	20 11 38	166 2 51														
40 g., 6 p.	Aippasi ...	4 O	16	2																							



*Kollam year K add 1*

TABLE XII.—General Ephemeris A.D. 1890—A.D. 1895.

Commence- ment of years in dif- ferent eras.	Tamil month.	Tamil Month			Tamil Month			Lunar month.	New Moon Ending moment of New Moon Tithi. ( 's Anom. ☉'s Anom.			Deduct for Nakshatras	Deduct for Yogas.			
		Beginning			End				Mean							
		Week-day	Month	Day	Week-day	Month	Day		Week-day	Month	Day (mean)					
				Last Day					Ghatikas	Palas	Day (actual)	Ghatikas	Palas			
<b>K. Y. 4991</b>	Chittirai	7 Ap	12	31	2 My	12	Vaisakha	7 Ap	19	32 8	17 45	6 28 13	7 30 10			
Sak. 1812	Vaikasi	3 My	13	31	5 Je	12	Jyeshtha	2 My	19	3 58 18	47 33	8 26 46	37 2 0			
Vik. 1947	Ani	6 Je	13	32	2 Ji	14	Ashada	3 Je	17	35 48	20 13	10 25 19	66 33 50			
(S.) Vikrita	Adi	3 Ji	15	31	5 Au	14	Sravana	5 Ji	17	7 39 16	56 4	12 23 53	96 5 41			
K. 1065 (S. M.)	Avani	6 Au	15	31	1 S	14	Bhadrapada	6 Au	15	39 29	34 53	14 22 26	125 37 31			
K. 1065 (N. M.)	Purattasi	2 S	15	31	4 O	15	Asvina	1 S	14	11 19	14 52	16 21 0	155 9 21			
55 g., 37 p.	Aippasi	5 O	16	30	6 N	14	Kartika	2 O	13	43 9	54 33	18 19 34	184 41 11			
B. S. 1296	Kartigai	7 N	15	29	7 D	13	Margasira	4 N	12	14 59	31 45	20 18 7	214 13 1			
(N.) Subhakrit	Margali	1 D	14	30	2 Ja	12	Pausha	5 D	11	46 49 12	5 48	22 16 41	243 44 51			
<b>A. D. 1891</b>	Tai	3 Ja	13	29	3 F	10	Magha	7 Ja	10	18 39	36 22	24 15 14	273 16 41			
H. 1309	Masi	4 F	11	30	5 Mr	12	Phalguna	1 F	8	50 29	9 34	26 13 48	302 48 31			
Aug. 7	Panguni	6 Mr	13	30	7 Ap	11	Chaitra	3 Mr	10	22 20	28 1	0 39 5	332 20 21			
									4 Ap	8	54 10	50 52	2 37 39	361 52 11	0 day, 33 ghat., 40 palas.	
<b>K. Y. 4992</b>	Chittirai	1 Ap	12	31	3 My	12	Vaisakha	6 My	8	26 0	13 39	4 36 12	26 8 30			
Sak. 1813	Vaikasi	4 My	13	32	7 Je	13	Jyeshtha	7 Je	6	57 50	37 45	6 34 46	55 40 20			
Vik. 1948	Ani	1 Je	14	31	3 Ji	14	Ashada	2 Ji	6	29 40	5 1	8 33 19	85 12 10			
(S.) Khara	Adi	4 Ji	15	32	7 Au	15	Sravana	4 Au	5	1 30 4	37 11	10 31 53	114 44 0			
K. 1066 (S. M.)	Avani	1 Au	16	31	3 S	15	Bhadrapada	5 S	3	33 20	15 4	12 30 27	144 15 50			
K. 1066 (N. M.)	Purattasi	4 S	16	30	5 O	15	Asvina	7 O	3	5 10 2	57 46	14 29 0	173 47 40			
11 g., 9 p.	Aippasi	6 O	16	30	7 N	14	Kartika	1 N	1	37 1	42 27	16 27 34	208 19 30			
B. S. 1297	Kartigai	1 N	15	29	1 D	13	Margasira	3 D	1	8 51	25 50	18 26 7	232 51 21			
(N.) Sobhana	Margali	2 D	14	30	3 Ja	12	Pausha	4 D	30	40 41 31	5 18	20 24 41	262 23 11			
<b>A. D. 1892</b>	Tai	4 Ja	13	29	4 F	10	Magha	6 Ja	29	12 31	39 36	22 23 15	291 55 1			
H. 1310	Masi	5 F	11	30	6 Mr	11	Phalguna	7 F	27	44 21 28	8 17	24 21 48	321 26 51			
July 26	Panguni	7 Mr	12	30	1 Ap	10	Chaitra	2 Mr	28	16 11	32 15	26 20 22	350 58 41	1 day, 57 ghat., 20 palas.		
<b>K. Y. 4993</b>	Chittirai	2 Ap	11	31	4 My	11	Vaisakha	3 Ap	26	48 1	52 53	0 45 39	15 15 0			
Sak. 1814	Vaikasi	5 My	12	32	1 Je	12	Jyeshtha	5 My	26	19 51	11 44	2 44 12	44 46 50			
Vik. 1949	Ani	2 Je	13	31	4 Ji	13	Ashada	6 Je	24	51 41	31 52	4 42 46	74 18 40			
(S.) Nandana	Adi	5 Ji	14	32	1 Au	14	Sravana	1 Ji	24	23 31 23	54 45	6 41 20	103 50 30			
K. 1067 (S. M.)	Avani	2 Au	15	31	4 S	14	Bhadrapada	2 Au	22	55 21	23 3	8 39 53	133 22 20			
K. 1067 (N. M.)	Purattasi	5 S	15	30	6 O	14	Asvina	4 S	21	27 12 20	58 28	10 38 27	162 54 10			
26 g., 40 p.	Aippasi	7 O	15	30	1 N	13	Kartika	5 O	20	59 2	40 51	12 37 0	192 26 0			
B. S. 1298	Kartigai	2 N	14	30	3 D	13	Margasira	7 N	19	30 52	27 4	14 35 34	221 57 50			
(N.) Krodhin	Margali	4 D	14	29	4 Ja	11	Pausha	2 D	19	2 42	16 14	16 34 8	251 29 41			
<b>A. D. 1893</b>	Tai	5 Ja	12	30	6 F	10	Magha	3 Ja	17	34 32 18	0 25	18 32 41	281 1 31			
H. 1311	Masi	7 F	11	29	7 Mr	11	Phalguna	5 F	16	6 23	38 57	20 31 15	310 33 21			
July 15	Panguni	1 Mr	12	31	3 Ap	11	Chaitra	6 Mr	17	38 13 18	10 1	22 29 48	340 5 11	1 day, 8 ghat., 27 palas.		
<b>K. Y. 4994</b>	Chittirai	4 Ap	12	31	6 My	12	Vaisakha	1 Ap	16	10 3	34 41	24 28 22	4 21 30			
Sak. 1815	Vaikasi	7 My	13	31	2 Je	12	Jyeshtha	2 My	15	41 53	54 43	26 26 56	33 53 20			
Vik. 1950	Ani	3 Je	13	32	6 Ji	14	Ashada	4 Je	14	13 43	12 5	0 52 13	63 25 10			
(S.) Vijaya	Adi	7 Ji	15	31	2 Au	14	Sravana	5 Ji	13	45 33	29 21	2 50 46	92 57 0			
K. 1068 (S. M.)	Avani	3 Au	15	31	5 S	14	Bhadrapada	7 Au	12	17 23 11	49 21	4 49 20	122 28 50			
K. 1068 (N. M.)	Purattasi	6 S	15	31	1 O	15	Asvina	1 S	10	49 13	14 34	6 47 54	152 0 40			
42 g., 11 p.	Aippasi	2 O	16	29	2 N	13	Kartika	3 O	10	21 3 9	46 49	8 46 27	181 32 30			
B. S. 1299	Kartigai	3 N	14	30	4 D	13	Margasira	4 N	8	52 53	26 54	10 45 1	211 4 20			
(N.) Visvavasv	Margali	5 D	14	29	5 Ja	11	Pausha	6 D	8	24 44	13 42	12 43 34	240 36 10			
<b>A. D. 1894</b>	Tai	6 Ja	12	30	7 F	10	Magha	7 Ja	6	56 34 7	3 43	14 42 8	270 8 1			
H. 1312	Masi	1 F	11	30	2 Mr	12	Phalguna	2 F	5	28 24	51 38	16 40 42	299 39 51			
July 5	Panguni	3 Mr	13	30	4 Ap	11	Chaitra	4 Mr	7	0 14	38 24	18 39 15	329 11 41			
<b>K. Y. 4995</b>	Chittirai	5 Ap	12	31	7 My	12	Vaisakha	5 Ap	5	32 4 6	7 23	20 37 49	358 43 31	0 day, 19 ghat., 14 palas.		
Sak. 1816	Vaikasi	1 My	13	31	3 Je	12	Jyeshtha	1 Je	3	35 44	54 59	24 34 56	52 31 40			
Vik. 1951	Ani	4 Je	13	32	7 Ji	14	Ashada	3 Ji	3	7 34	12 31	26 33 30	82 3 30			
(S.) Jaya	Adi	4 Ji	15	31	3 Au	14	Sravana	4 Au	1	39 24	29 17	0 58 47	111 35 20			
K. 1069 (S. M.)	Avani	4 Au	15	31	6 S	14	Bhadrapada	6 Au	31	11 14 30	48 5	2 57 20	141 7 10			
K. 1069 (N. M.)	Purattasi	7 S	15	31	2 O	15	Asvina	7 S	29	43 4	11 23	4 55 54	170 39 0			
57 g., 42 p.	Aippasi	3 O	16	30	4 N	14	Kartika	2 O	29	14 55 28	40 47	6 54 27	200 10 50			
B. S. 1300	Kartigai	5 N	15	29	5 D	13	Margasira	3 N	27	46 45	17 33	8 52 1	229 42 40			
(N.) Parabhava	Margali	6 D	14	30	7 Ja	12	Pausha	5 D	27	18 35	1 2	10 51 35	259 14 80			
<b>A. D. 1895</b>	Tai	1 Ja	13	29	1 F	10	Magha	6 Ja	25	50 25	49 40	12 50 8	288 46 21			
H. 1313	Masi	2 F	11	30	3 Mr	12	Phalguna	1 F	24	22 15	38 15	14 48 42	318 18 11			
June 24	Panguni	4 Mr	13	30	5 Ap	11	Chaitra	2 Mr	25	54 5 26	22 22	16 47 15	347 50 1	1 day, 43 ghat., 12 palas.		

TABLE XII.—General Ephemeris A.D. 1895—A.D. 1900.

Commence- ment of years in dif- ferent eras.	Tamil month.	Tamil Month			Lunar month.	New Moon			Ghatikas	Palas	Day	Ghatikas	Palas	Day	Ghatikas	Palas	Day	Ghatikas	Palas	Deduct for Yogas.													
		Week-day	Month	Day		Week-day	Month	Day																									
		Beginning			End				Ending moment of New Moon Tithi.			C's Anom.			O's Anom.																		
		Mean			Actual																												

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XII.—General Ephemeris A.D. 1905—A.D. 1910.

Commence- ment of years in dif- ferent eras.	Tamil month.	Tamil Month			Lunar Month.	New Moon										Deduct for Nakshatras	Deduct for Yogas.			
		Beginning				Ending moment of New Moon Tithi. ( 's Anom. ☉'s Anom.														
		Week-day				Mean Actual														
		Month	Day	Last Day		Month	Day (mean)	Ghatikas	Palas	Day (actual)	Ghatikas	Palas	Day	Ghatikas	Palas					
<b>K. Y. 5006</b>	Chittirai...	5 Ap	13	31	7 My	13	Vaisakha ...	5 My	4	13 30	...	37 5	15 47 45	21 18 39						
Sak. 1827	Vaikasi ...	1 My	14	31	3 Je	13	Jyeshtha ...	6 Je	2	45 20	3	11 37	17 46 18	50 50 29						
Vik. 1962	Ani ...	4 Je	14	32	7 Jl	15	Ashada ...	1 Jl	2	17 10	...	41 50	19 44 52	80 22 19						
(S.) Visvavasu	Adi ...	1 Jl	16	31	3 Au	15	Sravana ...	2 Jl	31	49 0	Au. 1	7 28	21 43 26	109 54 9						
K. 1080 (S.M.)	Avani ...	4 Au	16	31	6 S	15	Bhadrapada ...	4 Au	30	20 50	...	30 22	23 41 59	139 25 59						
K. 1080 (N.M.)	Purattasi ...	7 S	16	31	2 O	16	Asvina ...	5 S	28	52 40	...	52 27	25 40 33	168 57 49						
40 g., 26 p.	Aippasi ...	3 O	17	30	4 N	15	Kartika ...	7 O	28	24 31	...	14 ...	0 5 50	198 29 39						
B. S. 1311	Kartigai ...	5 N	16	29	5 D	14	Margasira ...	1 N	26	56 21	...	40 11	2 4 24	228 1 29						
(N.) Pingala	Margali ...	6 D	15	29	6 Ja	12	Pausha ...	3 D	26	28 11	...	8 24	4 2 57	257 33 20						
<b>A. D. 1906</b>	Tai ...	7 Ja	13	30	1 F	11	Magha ...	5 Ja	25	0 1 24	...	40 22	6 1 31	287 5 10						
H. 1324	Masi ...	2 F	12	30	3 Mr	13	Phalguna ...	6 F	23	31 51	...	16 3	8 0 4	316 36 59						
Feb. 25	Panguni ...	4 Mr	14	30	5 Ap	12	Chaitra ...	1 Mr	25	3 41 24	...	54 53	9 58 38	346 8 49						
<b>K. Y. 5007</b>	Chittirai...	6 Ap	13	31	1 My	13	Vaisakha ...	2 Ap	23	35 31	...	35 31	11 57 12	10 25 8						
Sak. 1828	Vaikasi ...	2 My	14	31	4 Je	13	Jyeshtha ...	4 My	23	7 21	...	14 55	13 55 45	39 56 59						
Vik. 1963	Ani ...	5 Je	14	32	1 Jl	15	Ashada ...	5 Je	21	39 12	...	54 3	15 54 19	69 28 49						
(S.) Parabhava	Adi ...	2 Jl	16	31	4 Au	15	Sravana ...	7 Jl	21	11 2	...	28 30	17 52 52	99 0 39						
K. 1081 (S.M.)	Avani ...	5 Au	16	32	1 S	16	Bhadrapada ...	1 Au	19	42 52	...	59 34	19 51 26	128 32 29						
K. 1081 (N.M.)	Purattasi ...	2 S	17	30	3 O	16	Asvina ...	3 S	18	14 42	...	27 57	21 50 0	158 4 19						
3 g., 58 p.	Aippasi ...	4 O	17	30	5 N	15	Kartika ...	4 O	17	46 32	...	54 33	23 48 33	187 36 9						
B. S. 1312	Kartigai ...	6 N	16	29	6 D	14	Margastra ...	6 N	16	18 22	...	20 23	25 47 7	217 7 59						
(N.) Kalayukta	Margali ...	7 D	15	30	1 Ja	13	Pausha ...	7 D	15	50 12	...	46 19	0 12 24	246 39 49						
<b>A. D. 1907</b>	Tai ...	2 Ja	14	29	2 F	11	Magha ...	2 Ja	14	22 2	...	13 13	2 10 57	276 11 39						
H. 1325	Masi ...	3 F	12	30	4 Mr	13	Phalguna ...	3 F	12	53 52	...	41 30	4 9 31	305 43 29						
Feb. 14	Panguni ...	5 Mr	14	30	6 Ap	12	Chaitra ...	5 Mr	14	25 43	...	11 37	6 8 5	335 15 19						
<b>K. Y. 5008</b>	Chittirai...	7 Ap	13	31	2 My	13	Vaisakha ...	1 My	12	29 23	...	18 35	10 5 12	29 3 29						
Sak. 1829	Vaikasi ...	3 My	14	32	6 Je	14	Jyeshtha ...	3 Je	11	1 13 10	...	55 14	12 3 45	58 35 19						
Vik. 1964	Ani ...	7 Je	15	31	2 Jl	15	Ashada ...	4 Jl	10	33 3	...	33 7	14 2 19	88 7 9						
(S.) Plavanga	Adi ...	3 Jl	16	32	6 Au	16	Sravana ...	6 Au	9	4 53	...	11 2	16 0 53	117 38 59						
K. 1082 (S.M.)	Avani ...	7 Au	17	31	2 S	16	Bhadrapada ...	7 S	7	36 43	...	47 49	17 59 26	147 10 49						
K. 1082 (N.M.)	Purattasi ...	3 S	17	30	4 O	16	Asvina ...	2 O	7	8 34	...	22 34	19 58 0	176 42 39						
19 g., 29 p.	Aippasi ...	5 O	17	30	6 N	15	Kartika ...	3 N	5	40 24	...	54 54	21 56 33	206 14 29						
B. S. 1313	Kartigai ...	7 N	16	30	1 D	15	Margasira ...	5 D	5	12 14	...	24 54	23 55 7	235 46 19						
(N.) Siddhantini	Margali ...	2 D	16	29	2 Ja	13	Pausha ...	6 Ja	3	44 4	...	53 36	25 53 40	265 18 9						
<b>A. D. 1908</b>	Tai ...	3 Ja	14	29	3 F	11	Magha ...	1 F	2	15 54	...	19 22	0 18 58	294 49 59						
H. 1326	Masi ...	4 F	12	30	5 Mr	12	Phalguna ...	2 Mr	2	47 44	...	44 47	2 17 31	324 21 50						
Feb. 4	Panguni ...	6 Mr	13	31	1 Ap	12	Chaitra ...	4 Ap	1	19 34	...	10 9	4 16 5	353 53 40						
<b>K. Y. 5009</b>	Chittirai...	2 Ap	13	31	4 My	13	Vaisakha ...	5 Ap	30	51 24	...	36 8	6 14 38	18 9 59						
Sak. 1830	Vaikasi ...	5 My	14	31	7 Je	13	Jyeshtha ...	7 My	30	23 14	...	4 55	8 13 12	47 41 49						
Vik. 1965	Ani ...	1 Je	14	32	4 Jl	15	Ashada ...	1 Je	28	55 4	...	36 30	10 11 46	77 13 39						
(S.) Kilaka	Adi ...	5 Jl	16	31	7 Au	15	Sravana ...	3 Jl	28	26 55	...	12 3	12 10 19	106 45 29						
K. 1083 (S.M.)	Avani ...	1 Au	16	31	3 S	15	Bhadrapada ...	4 Au	26	58 45	...	51 21	14 8 53	136 17 19						
K. 1083 (N.M.)	Purattasi ...	4 S	16	30	5 O	15	Asvina ...	6 S	25	30 35	...	32 46	16 7 26	165 49 9						
50 g., 31 p.	Aippasi ...	6 O	16	30	7 N	14	Kartika ...	1 O	25	2 25	...	13 46	18 6 0	195 20 59						
B. S. 1314	Kartigai ...	1 N	15	30	2 D	14	Margasira ...	2 N	23	34 15	...	52 21	20 4 34	224 52 49						
(N.) Raudra	Margali ...	3 D	15	29	3 Ja	12	Pausha ...	4 D	23	6 5	...	27 26	22 3 7	254 24 39						
<b>A. D. 1909</b>	Tai ...	4 Ja	13	30	5 F	11	Magha ...	5 Ja	21	37 55	...	58 20	24 1 41	283 56 29						
H. 1327	Masi ...	6 F	12	30	7 Mr	13	Phalguna ...	7 F	20	9 45	...	25 11	26 0 14	313 28 20						
Ja. 23	Panguni ...	1 Mr	14	30	2 Ap	12	Chaitra ...	1 Mr	21	41 36	...	48 57	0 25 31	343 0 10						
<b>K. Y. 5010</b>	Chittirai...	3 Ap	13	31	5 My	13	Vaisakha ...	3 Ap	20	13 26	...	10 48	2 24 5	7 16 29						
Sak. 1831	Vaikasi ...	6 My	14	31	1 Je	13	Jyeshtha ...	4 My	19	45 16	...	32 18	4 22 39	36 48 19						
Vik. 1966	Ani ...	2 Je	14	32	5 Jl	15	Ashada ...	6 Je	18	17 6 17	...	55 23	6 21 12	66 20 9						
(S.) Saunhya	Adi ...	6 Jl	16	31	1 Au	15	Sravana ...	7 Jl	17	48 56	...	21 55	8 19 45	95 51 59						
K. 1084 (S.M.)	Avani ...	2 Au	16	31	4 S	15	Bhadrapada ...	2 Au	16	20 46 15	...	53 57	10 18 19	125 23 49						
K. 1084 (N.M.)	Purattasi ...	5 S	16	31	7 O	16	Asvina ...	5 O	14	24 26	...	15 54	14 15 27	184 27 29						
35 g., 0 p.	Aippasi ...	1 O	17	30	2 N	15	Kartika ...	6 N	12	56 17 13	...	1 50	16 14 0	213 59 19						
B. S. 1315	Kartigai ...	3 N	16	29	3 D	14	Margasira ...	1 D	12	28 7	...	46 22	18 12 34	243 31 9						
(N.) Durmati	Margali ...	4 D	15	29	4 Ja	12	Pausha ...	3 Ja	11	0 0	...	25 37	20 11 7	273 2 59						
<b>A. D. 1910</b>	Tai ...	5 Ja	13	30	6 F	11	Magha ...	4 F	9	31 47 10	...	1 12	22 9 41	302 34 50						
H. 1328	Masi ...	7 F	12	30	1 Mr	13	Phalguna ...	6 Mr	11	3 37	...	29 19	24 8 15	332 6 40						
Ja. 13	Panguni ...	2 Mr	14	30	3 Ap	12	Chaitra ...	7 Ap	9	35 27	...	52 37	26 6 48	361 38 30						

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XII.—General Ephemeris A.D. 1915—A.D. 1920.

		Tamil Month						New Moon Ending moment of New moon Tithi. (°'s Anom. ☉'s Anom.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		Beginning			End			Mean Actual																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Commence- ment of years in dif- ferent eras.	Tamil month.	Week-day	Month	Day	Last Day	Week-day	Month	Day	Lunar Month.	Week-day	Month	Day (mean)	Ghatikas		Palas		Week-day	Month	Day (actual)	Ghatikas		Palas		Day	Ghatikas		Palas		Day	Ghatikas		Palas		Deduct for Nakshatras	Deduct for Yogas.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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<b>K. Y. 5016</b>	Chittirai	3	Ap	13	31	5	My	13	Vaisakha	4	Ap	14	29 14	...	24 1	10 51	9	0 59	8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XIII.

Sunrise from 8° to 12° N. Latitude.

Day of Solar year.	Lat. 8° +300'' Long.			Lat. 9° +852'' Long.			Lat. 10° +564'' Long.			Lat. 11° +816'' Long.			Lat. 12° +212'' Long.				
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.		
			<b>A.D.</b> 1840— 1920			<b>A.D.</b> 1840— 1920			<b>A.D.</b> 1840— 1920			<b>A.D.</b> 1840— 1920			<b>A.D.</b> 1840— 1920		
<b>63</b>	-163	+1226	+1107	-165	+1327	+1763	1	-165	+1427	+1578	-165	+1528	+1941	14	-165	+1617	+1438
<b>64</b>	156	1214	1103	156	1314	1860	2	156	1415	1575	156	1516	1938	15	156	1606	1436
<b>65</b>	147	1201	1099	147	1302	1757	3	147	1402	1571	147	1504	1935	16	147	1595	1434
<b>66</b>	188	1188	1096	138	1289	1753	4	138	1390	1568	138	1492	1932	17	138	1583	1431
<b>67</b>	129	1176	1092	129	1277	1749	5	129	1378	1565	129	1481	1930	18	128	1572	1430
<b>68</b>	120	1163	1088	120	1264	1746	6	120	1365	1561	119	1469	1928	19	119	1561	1428
<b>69</b>	110	1150	1085	110	1252	1743	7	110	1353	1559	110	1459	1925	20	110	1550	1426
<b>70</b>	101	1137	1082	101	1239	1739	8	101	1340	1555	101	1445	1922	21	100	1538	1424
<b>71</b>	91	1125	1079	91	1227	1737	9	91	1328	1553	91	1433	1921	22	91	1527	1421
<b>72</b>	82	1112	1066	82	1214	1723	10	82	1316	1539	82	1421	1907	23	81	1516	1407
<b>73</b>	72	1099	1053	72	1202	1711	11	72	1303	1526	72	1409	1893	24	72	1504	1392
<b>74</b>	63	1086	1039	63	1189	1697	12	63	1291	1513	63	1397	1879	25	62	1493	1378
<b>75</b>	54	1074	1026	54	1176	1683	13	54	1278	1499	54	1385	1865	26	54	1482	1362
<b>76</b>	43	1061	1014	43	1164	1671	14	43	1266	1487	43	1373	1852	27	43	1470	1349
<b>77</b>	34	1048	1001	34	1151	1658	15	34	1254	1473	34	1362	1838	28	34	1459	1335
<b>78</b>	25	1035	987	25	1139	1644	16	25	1241	1459	25	1350	1824	29	24	1448	1321
<b>79</b>	15	1023	975	15	1126	1631	17	15	1229	1447	15	1338	1811	30	15	1437	1306
<b>80</b>	5	1010	962	5	1114	1619	18	5	1216	1434	5	1326	1797	1	5	1425	1292
<b>81</b>	+ 4	997	949	+ 4	1101	1605	19	+ 4	1204	1420	+ 4	1314	1783	2	+ 4	1414	1277
<b>82</b>	14	985	936	14	1089	1592	20	14	1192	1407	14	1302	1770	3	14	1403	1263
<b>83</b>	23	972	923	23	1076	1571	21	23	1179	1393	23	1290	1755	4	23	1391	1248
<b>84</b>	33	959	910	33	1064	1566	22	33	1167	1381	33	1278	1742	5	33	1380	1234
<b>85</b>	43	946	898	43	1051	1553	23	43	1154	1368	43	1266	1729	6	43	1369	1220
<b>86</b>	52	934	884	52	1039	1539	24	52	1142	1354	52	1254	1714	7	52	1357	1205
<b>87</b>	61	921	871	61	1026	1526	25	61	1130	1340	61	1243	1700	8	61	1346	1191
<b>88</b>	71	908	858	71	1014	1513	26	71	1117	1327	71	1231	1687	9	71	1335	1177
<b>89</b>	81	895	846	81	1001	1500	27	81	1105	1315	81	1219	1674	10	81	1324	1163
<b>90</b>	90	883	832	90	988	1486	28	90	1092	1301	90	1207	1659	11	90	1312	1148
<b>91</b>	104	870	824	104	976	1478	29	104	1080	1292	104	1196	1650	12	104	1300	1138
<b>92</b>	114	847	811	114	953	1465	30	114	1057	1279	114	1173	1637	13	114	1276	1124
<b>93</b>	124	825	799	124	931	1452	31	124	1034	1266	124	1149	1623	14	124	1252	1110
<b>94</b>	133	802	785	133	908	1439	32	133	1012	1253	134	1126	1610	15	134	1228	1096
<b>95</b>	143	780	773	143	885	1426	1	143	989	1240	143	1103	1596	16	144	1204	1082
<b>96</b>	153	757	760	153	862	1413	2	153	966	1227	153	1079	1582	17	153	1180	1067
<b>97</b>	162	735	747	162	840	1399	3	162	943	1213	163	1056	1569	18	163	1157	1054
<b>98</b>	172	712	734	172	817	1387	4	172	920	1200	172	1033	1555	19	173	1133	1040
<b>99</b>	182	690	721	182	794	1374	5	182	898	1188	182	1010	1542	20	182	1109	1025
<b>100</b>	191	667	708	191	772	1359	6	191	875	1174	191	986	1527	21	191	1085	1010
<b>101</b>	200	645	694	200	749	1347	7	200	852	1160	200	963	1513	22	201	1061	996
<b>102</b>	209	622	681	209	726	1333	8	209	829	1145	210	940	1498	23	210	1037	982
<b>103</b>	218	600	680	218	703	1331	9	218	806	1141	219	916	1492	24	219	1013	975
<b>104</b>	228	577	680	228	681	1329	10	228	784	1138	228	893	1487	25	229	989	970
<b>105</b>	237	555	680	237	658	1327	11	237	761	1134	237	870	1481	26	238	965	963
<b>106</b>	246	532	679	246	635	1325	12	246	738	1130	246	846	1476	27	247	941	956
<b>107</b>	253	510	676	253	613	1320	13	254	715	1125	255	823	1470	28	256	918	949
<b>108</b>	261	487	675	262	590	1318	14	263	692	1122	264	800	1465	29	265	894	943
<b>109</b>	271	465	675	272	567	1317	15	272	670	1118	273	777	1459	30	273	870	935
<b>110</b>	280	442	674	280	544	1313	16	281	647	1114	281	753	1453	31	282	846	928
<b>111</b>	288	420	672	289	522	1311	17	289	624	1109	290	730	1447	1	290	822	921
<b>112</b>	297	397	672	297	499	1308	18	298	601	1105	298	707	1441	2	299	798	914
<b>113</b>	306	375	671	306	476	1305	19	306	578	1100	307	683	1435	3	307	774	906
<b>114</b>	315	352	670	315	454	1293	20	315	556	1096	316	660	1430	4	316	750	900
<b>115</b>	323	330	668	323	431	1300	21	323	533	1091	324	637	1423	5	324	726	892
<b>116</b>	331	307	667	331	408	1296	22	331	510	1086	332	613	1417	6	332	702	884
<b>117</b>	338	285	664	339	385	1293	23	339	487	1081	339	590	1409	7	340	679	876
<b>118</b>	347	262	663	347	363	1290	24	347	464	1077	348	567	1404	8	348	655	869
<b>119</b>	353	239	659	354	340	1285	25	354	442	1071	355	544	1396	9	356	631	861
<b>120</b>	356	217	656	357	317	1275	26	358	419	1062	359	520	1386	1	360	607	849
<b>121</b>	359	194	659	360	295	1265	27	362	396	1053	363	497	1375	2	364	583	838
<b>122</b>	362	172	662	363	272	1260	28	366	372	1044	367	472	1365	3	369	560	827
<b>123</b>	365	152	665	367	251	1253	29	369	359	1034	371	457	1354	4	374	544	816
<b>124</b>	372	132	672	374	229	1249	30	376	346	1028	379	443	1348	5	380	529	807
<b>125</b>	379	113	679	381	208	1244	31	383	333	1022	385	428	1339	6	387	513	798



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**Sunrise from 8° to 12° N. Latitude.**

Sunrise from 8° to 12° N. Latitude.																	
Lat. 8° +300" Long.		Lat. 9° +852" Long.		Lat. 10° +564" Long.		Lat. 11° +816" Long.		Lat. 12° +212" Long.									
Day of Solar year.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Trivandram.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Rameswaram.	Days of Solar Months.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Madura.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Tanjore.	Eng. date.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Malsur.
			A.D. 1840—1920							A.D. 1840—1920							A.D. 1840—1920
187	+499	+0	+799	+502	+0	+1354	1	+505	+0	+1069	+508	-5	+1295	16	+512	-12	+654
188	497	0	797	500	0	1352	2	503	0	1067	506	6	1292	17	510	14	650
189	494	0	794	497	0	1349	3	500	0	1064	503	7	1288	18	507	17	644
190	491	0	791	494	0	1346	4	497	0	1061	500	8	1284	19	504	20	638
191	488	0	788	491	0	1343	5	494	0	1058	497	10	1279	20	501	23	632
192	485	0	785	488	0	1340	6	491	0	1055	494	11	1275	21	498	26	626
193	482	0	782	485	0	1337	7	488	0	1052	491	12	1271	22	495	29	619
194	479	0	779	482	0	1334	8	485	0	1049	488	13	1267	23	492	32	600
195	476	0	776	479	0	1331	9	482	0	1036	485	14	1263	24	489	35	581
196	473	0	773	476	0	1328	10	479	0	1020	482	16	1219	25	486	38	563
October																	
197	469	0	769	472	0	1324	11	475	0	1003	478	17	1200	26	482	41	543
198	465	0	765	468	0	1320	12	471	0	987	474	18	1182	27	478	43	524
199	462	0	762	465	0	1317	13	468	0	971	471	19	1164	28	475	46	505
200	458	0	758	461	0	1302	14	464	0	954	467	20	1146	29	471	49	485
201	454	0	754	457	0	1286	15	460	0	937	463	22	1127	30	467	52	465
202	450	0	750	453	0	1271	16	456	0	920	459	23	1109	31	463	55	446
203	445	0	745	448	0	1255	17	451	0	902	454	24	1089	1	458	58	422
204	440	0	740	443	0	1238	18	446	0	884	449	25	1070	2	453	61	405
205	436	0	736	439	0	1223	19	442	0	867	445	26	1051	3	449	64	385
206	431	0	725	434	0	1207	20	437	0	849	440	28	1032	4	444	67	364
November																	
207	427	0	711	430	0	1191	21	433	0	832	436	29	1013	5	440	70	344
208	422	0	696	425	0	1175	22	428	0	815	431	30	994	6	435	72	324
209	417	0	681	420	0	1159	23	423	0	797	425	31	973	7	429	75	302
210	413	0	668	416	0	1143	24	419	0	780	420	32	954	8	424	78	281
211	411	0	656	414	0	1130	25										

TABLE XIII.

Sunrise from 8° to 12° N Latitude.

Day of Solar year.	Lat. 8° +300'' Long.			Lat. 9° +852'' Long.			Days of Solar Months.	Lat. 10° +564'' Long.			Lat. 11° +816'' Long.			Lat. 12° +212'' Long.			
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Trivandram.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Rameswaram.		Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Madura.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Tanjore.	Eng. date.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Malsur.
			A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920
247	+160	-262	-252	+160	-363	+195	1	+160	-463	-195	+160	-565	-55	15	+160	-656	-762
248	150	285	285	150	385	162	2	150	486	228	150	588	88	16	150	679	795
249	140	307	317	140	408	130	3	140	509	261	140	612	122	17	140	703	829
250	130	330	350	130	431	97	4	130	532	294	130	635	155	18	130	727	863
251	120	352	362	120	454	64	5	120	554	326	120	658	188	19	120	751	897
252	110	375	415	110	476	31	6	110	577	359	110	682	222	20	110	775	931
253	100	397	447	100	499	1	7	100	600	392	100	705	255	21	100	799	965
254	90	420	480	90	522	34	8	90	623	426	90	728	290	22	90	823	998
255	80	442	503	80	544	56	9	80	646	448	80	752	312	23	80	847	1019
256	70	465	525	70	567	79	10	70	668	471	70	775	334	24	70	871	1041
December																	
257	60	487	548	60	590	102	11	60	691	493	60	798	356	25	60	895	1062
258	50	510	571	50	613	124	12	50	714	516	50	821	378	26	50	918	1083
259	40	532	594	40	635	147	13	40	737	538	40	845	399	27	40	942	1104
260	30	555	616	30	658	169	14	30	760	560	30	868	421	28	30	966	1126
261	20	577	639	20	681	192	15	20	782	583	20	891	443	29	20	990	1147
262	10	600	662	10	703	214	16	10	805	605	10	915	465	30	10	1014	1168
263	0	622	685	0	726	237	17	0	828	628	0	938	487	31	0	1038	1190
264	-10	645	707	-10	749	257	18	-10	851	649	-10	961	508	1	-10	1062	1210
265	20	667	730	20	772	280	19	20	874	676	20	985	529	2	20	1086	1230
266	29	690	752	28	794	302	20	28	896	693	28	1008	551	3	28	1110	1252
Tamil, Margali; Malayalam, Dhanus; Bengali, Pausha.																	
267	38	712	773	37	817	324	21	37	919	714	37	1031	572	4	37	1134	1272
268	48	735	796	47	840	346	22	47	942	737	47	1054	594	5	47	1157	1293
269	59	757	820	57	862	369	23	57	965	759	57	1078	615	6	57	1181	1314
270	68	780	842	66	885	390	24	66	988	780	66	1101	636	7	66	1205	1335
271	78	802	864	77	908	414	25	77	1010	804	77	1124	659	8	77	1229	1357
272	88	825	887	87	931	437	26	87	1033	826	87	1148	681	9	87	1253	1378
273	98	847	910	97	953	459	27	97	1056	849	97	1171	703	10	97	1277	1400
274	104	870	929	104	976	479	28	104	1080	868	104	1196	722	11	104	1300	1418
275	111	883	948	111	988	498	29	111	1092	887	111	1208	741	12	111	1311	1436
Tamil, Margali; Malayalam, Dhanus; Bengali, Pausha.																	
276	119	895	969	118	1001	518	1	118	1105	907	118	1220	760	13	118	1323	1455
277	126	908	988	126	1014	539	2	125	1117	926	125	1232	778	14	125	1334	1473
278	134	921	1010	133	1026	558	3	133	1130	947	132	1246	798	15	132	1345	1491
279	141	934	1029	140	1039	577	4	140	1142	966	139	1255	816	16	139	1356	1509
280	149	946	1050	148	1051	598	5	147	1154	985	146	1267	835	17	146	1368	1528
281	156	959	1070	155	1064	617	6	154	1167	1006	154	1279	855	18	153	1379	1546
282	164	972	1090	162	1076	637	7	162	1179	1025	161	1291	874	19	160	1390	1564
283	171	985	1110	170	1089	657	8	169	1192	1045	168	1303	893	20	167	1402	1583
284	179	997	1131	177	1101	677	9	176	1204	1064	175	1315	911	21	174	1413	1602
285	186	1010	1127	184	1114	672	10	183	1216	1057	182	1329	903	22	181	1424	1592
Tamil, Margali; Malayalam, Dhanus; Bengali, Pausha.																	
286	194	1023	1125	192	1126	667	11	191	1229	1051	189	1339	894	23	188	1436	1583
287	201	1035	1121	199	1139	662	12	198	1241	1045	196	1351	886	24	195	1447	1573
288	209	1048	1118	206	1151	657	13	205	1254	1038	204	1363	878	25	202	1458	1564
289	216	1061	1114	214	1164	653	14	212	1266	1031	211	1374	870	26	209	1469	1554
290	224	1074	1112	221	1176	647	15	220	1278	1025	218	1386	862	27	216	1481	1545
291	231	1086	1108	228	1189	642	16	227	1291	1018	225	1398	853	28	223	1492	1535
292	239	1099	1105	236	1202	638	17	234	1303	1012	232	1410	845	29	230	1503	1526
293	246	1112	1102	243	1214	633	18	241	1316	1005	239	1422	836	30	237	1515	1516
294	254	1125	1099	250	1227	627	19	249	1328	999	246	1434	828	31	244	1526	1507
295	261	1137	1095	258	1239	623	20	256	1340	992	254	1446	821	1	251	1537	1497
Tamil, Tai; Malayalam, Magham; Bengali, Magha.																	
296	269	1150	1092	265	1252	618	21	263	1353	985	261	1458	812	2	258	1549	1488
297	276	1163	1089	272	1264	613	22	270	1365	979	268	1470	804	3	265	1560	1478
298	284	1176	1086	280	1277	608	23	278	1378	973	275	1482	795	4	273	1571	1470
299	291	1188	1082	287	1289	603	24	285	1390	966	282	1493	787	5	281	1582	1461
300	299	1201	1080	294	1302	598	25	292	1402	959	289	1505	779	6	288	1594	1452
301	306	1214	1076	302	1314	594	26	299	1415	952	296	1517	770	7	295	1605	1442
302	314	1226	1073	309	1327	588	27	306	1427	946	304	1529	763	8	303	1616	1434
303	321	1239	1069	316	1339	583	28	314	1440	940	311	1541	754	9	310	1628	1424
304	325	1252	1063	323	1352	578	29	321	1452	933	318	1552	746	10	317	1640	1415
305	328	1241	1055	326	1340	569	30	324	1438	922	321	1537	734	11	320	1623	1401

TABLE XIII.

Sunrise from 8° to 12° N. Latitude.

Day of Solar year.	Lat. 8° +300' Long.			Lat. 9° +852' Long.			Days of Solar months.	Lat. 10° +564' Long.			Lat. 11° +816' Long.			Lat. 12° +212' Long.			
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.		Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	
	A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920			
306	—382	—1231	—1048	—330	—1327	—560	1	—327	—1424	—911	—324	—1521	—721	12	—323	—1607	—1388
307	335	1220	1041	333	1315	551	2	331	1411	902	328	1506	710	13	327	1590	1375
308	339	1209	1034	334	1303	543	3	334	1397	891	331	1490	697	14	330	1574	1362
309	342	1198	1026	340	1291	533	4	337	1383	880	334	1475	685	15	333	1557	1348
310	346	1188	1019	344	1278	525	5	341	1369	870	338	1460	674	16	337	1541	1336
311	349	1177	1012	347	1266	516	6	344	1355	859	341	1444	661	17	340	1524	1322
312	353	1166	1005	351	1254	509	7	347	1342	849	344	1429	649	18	343	1508	1309
313	356	1156	997	354	1242	498	8	351	1328	839	348	1413	637	19	347	1491	1296
314	360	1145	990	358	1229	490	9	354	1314	828	351	1398	625	20	350	1475	1283
315	363	1134	983	361	1217	481	10	357	1300	817	354	1383	614	21	353	1458	1268
316	367	1123	956	365	1205	453	11	361	1281	787	358	1367	582	22	357	1442	1245
317	370	1113	929	368	1193	423	12	364	1273	756	361	1352	549	23	360	1455	1201
318	374	1102	902	372	1180	395	13	367	1259	725	364	1336	516	24	363	1409	1166
319	377	1091	874	375	1168	360	14	371	1245	685	368	1321	484	25	367	1392	1133
320	381	1081	847	379	1156	337	15	374	1231	674	371	1306	451	26	370	1376	1098
321	384	1070	820	382	1144	308	16	377	1217	633	374	1290	419	27	373	1359	1063
322	388	1059	793	386	1131	279	17	381	1204	602	378	1275	387	28	377	1343	1030
323	391	1048	766	389	1119	250	18	384	1190	571	381	1259	354	1	380	1326	995
324	395	1038	739	393	1107	221	19	387	1176	540	384	1244	321	2	383	1310	961
325	398	1027	711	396	1095	192	20	391	1162	510	388	1229	289	3	387	1293	927
326	402	1016	685	400	1082	164	21	394	1148	479	391	1213	256	4	390	1277	892
327	405	1006	657	403	1070	134	22	397	1135	448	394	1198	223	5	393	1260	858
328	409	995	630	407	1058	106	23	401	1121	418	398	1182	191	6	397	1244	824
329	412	984	603	410	1045	76	24	404	1107	387	401	1167	158	7	400	1227	790
330	415	973	575	414	1033	48	25	407	1093	356	404	1152	125	8	403	1211	755
331	418	963	547	417	1021	19	26	411	1079	326	408	1136	94	9	406	1194	720
332	422	962	521	419	1009	+ 12	27	414	1066	294	411	1121	61	10	408	1178	685
333	425	941	493	422	996	41	28	417	1052	263	414	1105	28	11	411	1161	650
334	429	931	465	425	984	71	29	421	1038	233	418	1090	+ 4	12	414	1145	616
335	432	920	439	428	972	100	1	424	1024	202	420	1076	38	13	417	1128	581
336	432	889	408	428	940	132	2	424	990	163	420	1040	74	14	417	1090	543
337	433	859	378	429	907	164	3	425	956	135	421	1004	109	15	418	1053	507
338	433	828	347	429	875	196	4	425	922	101	421	968	145	16	418	1015	469
339	434	797	318	430	842	228	5	426	888	68	422	932	180	17	419	978	433
340	434	766	287	430	810	260	6	426	854	34	422	896	216	18	419	940	395
341	435	736	258	431	778	291	7	427	820	1	423	861	250	19	420	902	358
342	435	705	227	431	745	324	8	427	785	+ 34	423	825	286	20	420	865	321
343	436	675	197	432	713	355	9	428	751	67	424	789	321	21	421	827	284
344	436	640	167	432	680	388	10	428	717	101	424	753	356	22	421	790	247
345	437	613	137	433	648	419	11	429	683	135	425	717	391	23	422	752	210
346	437	583	106	433	616	451	12	429	649	169	425	681	427	24	422	714	172
347	438	552	77	434	583	483	13	430	615	202	426	645	462	25	423	677	136
348	438	521	46	434	551	515	14	430	581	236	426	609	498	26	423	639	98
349	439	491	16	435	518	547	15	431	547	269	427	573	533	27	424	602	62
350	439	460	+ 14	435	486	579	16	431	513	303	427	537	568	28	424	564	24
351	440	429	44	436	454	610	17	432	479	337	428	502	603	29	425	526	+ 13
352	440	399	75	436	421	643	18	432	444	371	428	466	639	30	425	489	50
353	441	368	104	437	389	674	19	433	410	404	429	430	674	31	426	451	87
354	441	337	135	437	356	707	20	433	376	438	429	394	710	1	426	414	124
355	442	307	165	438	324	738	21	434	342	471	430	358	745	2	427	376	161
356	442	276	195	438	292	770	22	434	308	505	430	322	781	3	427	338	199
357	443	245	225	439	259	802	23	435	274	538	431	286	816	4	428	301	235
358	443	215	256	439	227	834	24	435	240	572	431	250	852	5	428	263	273
359	444	184	285	440	194	866	25	436	206	605	432	214	887	6	429	226	309
360	444	153	316	440	162	898	26	436	172	639	432	178	922	7	429	188	347
361	445	123	346	441	130	929	27	437	138	673	433	143	957	8	430	150	384
362	445	92	376	441	97	962	28	437	103	707	433	107	993	9	430	113	421
363	446	61	406	442	65	993	29	438	69	740	434	71	1028	10	431	75	459
364	446	31	437	442	32	1026	30	438	35	774	434	36	1064	11	431	38	496
365	447	0	466	443	0	1057	31	439	0	807	435	0	1099	12	432	0	533

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XIII.

Sunrise from 13° to 17° N. Latitude.

	Lat. 13° +1072" Long.			Lat. 14° +1008" Long.				Lat. 15° +168" Long.			Lat. 16° -300" Long.				Lat. 17° +648" Long.		
Solar year.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Days of Solar months.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eng. date.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.
	A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920		
63	-164	+1714	+2406	-164	+1812	+2454	1	-164	+1917	+1729	-163	+2010	+1369	14	-163	+2111	+2428
64	155	1704	2405	155	1802	2453	2	155	1907	1728	154	2001	1369	15	154	2103	2429
65	146	1693	2403	146	1792	2452	3	146	1898	1728	145	1992	1369	16	145	2094	2429
66	137	1682	2401	137	1781	2450	4	137	1888	1727	136	1983	1369	17	136	2086	2430
67	128	1671	2399	128	1771	2449	5	127	1878	1727	126	1975	1371	18	127	2078	2431
68	119	1660	2397	119	1761	2448	6	118	1869	1727	115	1966	1370	19	118	2069	2431
69	109	1650	2397	109	1751	2448	7	109	1859	1626	109	1957	1370	20	108	2060	2433
70	100	1639	2395	100	1741	2447	8	100	1850	1727	99	1948	1371	21	99	2052	2432
71	91	1628	2393	91	1731	2445	9	90	1840	1726	90	1939	1370	22	90	2044	2434
72	81	1617	2379	81	1721	2430	10	81	1830	1709	81	1930	1353	23	80	2036	2417
73	72	1606	2363	72	1711	2414	11	71	1821	1694	71	1921	1337	24	71	2027	2400
74	62	1596	2349	62	1701	2399	12	62	1811	1677	62	1912	1319	25	62	2019	2382
75	54	1585	2332	54	1691	2382	13	54	1802	1660	54	1903	1301	26	54	2010	2363
76	43	1574	2319	43	1680	2368	14	43	1792	1645	43	1894	1286	27	43	2002	2347
77	34	1563	2304	33	1670	2353	15	33	1782	1630	33	1886	1270	28	33	1994	2331
78	24	1552	2289	24	1660	2337	16	24	1773	1613	24	1877	1253	29	24	1985	2313
79	15	1542	2274	15	1650	2321	17	15	1763	1597	15	1868	1235	30	15	1977	2295
80	5	1531	2259	5	1640	2306	18	5	1754	1581	5	1859	1219	1	5	1968	2279
81	+ 4	1520	2244	+ 4	1630	2290	19	+ 4	1744	1565	+ 4	1850	1202	2	+ 4	1960	2261
82	14	1509	2230	14	1620	2275	20	14	1734	1549	14	1841	1186	3	14	1952	2244
83	23	1498	2214	23	1610	2259	21	23	1725	1533	23	1832	1169	4	23	1943	2227
84	33	1488	2200	33	1600	2244	22	33	1715	1517	33	1823	1152	5	33	1935	2220
85	43	1477	2185	43	1590	2229	23	42	1706	1501	42	1814	1135	6	42	1926	2192
86	52	1466	2170	52	1579	2213	24	52	1696	1485	52	1805	1119	7	51	1918	2174
87	61	1455	2155	61	1569	2197	25	61	1686	1469	61	1797	1102	8	61	1910	2158
88	71	1444	2140	71	1559	2182	26	71	1677	1453	70	1788	1085	9	70	1901	2140
89	80	1434	2125	80	1549	2166	27	80	1667	1437	80	1779	1068	10	80	1893	2123
90	90	1423	2110	89	1539	2150	28	89	1658	1420	89	1770	1051	11	89	1884	2106
91	105	1412	2101	105	1528	2141	29	105	1648	1411	105	1760	1041	12	106	1876	2096
92	115	1398	2087	115	1503	2126	30	115	1622	1395	116	1754	1026	13	116	1849	2079
93	124	1383	2071	125	1478	2111	31	125	1597	1380	125	1708	1109	14	126	1823	2063
94	134	1369	2063	134	1453	2095	32	135	1571	1364	135	1681	992	15	135	1796	2045
95	144	1314	2042	144	1428	2080	1	144	1546	1348	145	1655	976	16	145	1769	2028
96	154	1290	2028	154	1403	2065	2	154	1520	1332	155	1629	960	17	155	1742	2011
97	163	1266	2013	164	1378	2050	3	164	1495	1317	164	1603	943	18	165	1716	1995
98	173	1241	1998	173	1353	2034	4	174	1469	1301	174	1577	927	19	174	1689	1977
99	183	1217	1984	183	1328	2019	5	183	1444	1285	184	1550	910	20	184	1662	1960
100	192	1192	1968	192	1303	2003	6	193	1418	1269	193	1524	893	21	193	1636	1943
101	201	1168	1953	202	1278	1988	7	202	1393	1253	202	1498	876	22	203	1609	1926
102	210	1144	1938	211	1253	1971	8	211	1367	1235	212	1472	860	23	212	1582	1908
103	220	1119	1931	220	1228	1961	9	221	1342	1224	221	1446	847	24	222	1556	1895
104	229	1095	1922	230	1203	1953	10	230	1316	1213	231	1419	836	25	231	1539	1881
105	238	1070	1914	239	1178	1943	11	239	1291	1202	240	1393	823	26	240	1502	1866
106	247	1046	1906	248	1153	1933	12	248	1265	1191	249	1367	810	27	249	1475	1852
107	256	1022	1897	257	1128	1923	13	257	1240	1179	258	1341	797	28	258	1449	1838
108	266	997	1890	266	1103	1914	14	266	1214	1168	267	1315	785	29	267	1422	1824
109	274	973	1881	274	1078	1903	15	275	1189	1157	276	1288	772	30	276	1395	1810
110	283	948	1873	283	1053	1893	16	284	1163	1146	285	1262	759	31	285	1369	1795
111	291	924	1863	292	1028	1884	17	292	1138	1133	293	1236	746	1	294	1342	1781
112	300	900	1855	300	1003	1873	18	301	1112	1122	301	1210	732	2	302	1315	1766
113	308	875	1846	309	978	1863	19	309	1087	1110	310	1184	719	3	311	1289	1752
114	317	857	1837	318	953	1854	20	318	1061	1098	319	1157	707	4	320	1262	1738
115	325	826	1828	326	928	1843	21	326	1036	1086	327	1131	693	5	328	1235	1722
116	333	802	1819	334	903	1832	22	334	1010	1074	335	1105	679	6	336	1208	1707
117	341	778	1809	342	878	1821	23	342	985	1061	343	1079	665	7	344	1182	1692
118	349	753	1800	350	853	1811	24	351	959	1050	352	1053	653	8	352	1155	1677
119	356	729	1790	355	828	1797	25	356	934	1035	358	1026	637	9	358	1128	1670
120	360	704	1777	360	803	1783	26	361	908	1020	363	1000	620	10	364	1102	1642
121	364	680	1755	365	778	1770	27	366	883	1004	369	974	605	11	370	1075	1625
122	368	656	1750	370	752	1756	28	372	856	990	375	948	589	12	377	1048	1609
123	375	639	1740	377	728	1744	29	379	835	977	382	928	574	13	384	1025	1593
124	382	621	1729	385	715	1734	30	387	815	964	389	905	560	14	391	1002	1577
				391	696	1721	31	394	795	951	396	883	545	15	398	978	1559

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XIII.

Sunrise from 13° to 17° N. Latitude.

Day of Solar year.	Lat. 13° +1072" Long.		Lat. 14° +1008" Long.		Lat. 15° +168" Long.		Lat. 16° +300" Long.		Lat. 17° +648" Long.								
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.							
		A.D. 1840- 1920		A.D. 1840- 1920		A.D. 1840- 1920		A.D. 1840- 1920		A.D. 1840- 1920							
187	+515	-18	+1479	+519	-26	+1373	1	+523	-33	+492	+527	-40	-11	16	+531	-47	+898
188	513	22	1473	517	32	1365	2	521	41	482	525	49	22	17	529	58	885
189	510	27	1465	514	38	1356	3	518	50	470	522	59	35	18	526	70	870
190	507	31	1458	511	45	1346	4	515	58	459	519	69	48	19	523	82	855
191	504	36	1450	508	51	1337	5	512	66	448	516	79	61	20	520	94	840
192	501	40	1443	505	58	1327	6	509	75	436	513	89	74	21	517	105	826
193	498	45	1434	502	64	1318	7	506	83	426	510	99	86	22	514	117	810
194	495	49	1414	499	70	1296	8	503	91	403	507	109	111	23	511	129	784
195	492	54	1393	496	77	1275	9	500	99	379	504	119	135	24	508	140	758
196	488	58	1372	492	83	1252	10	496	108	355	500	129	161	25	504	152	730
October																	
197	484	63	1351	488	90	1229	11	492	116	331	496	139	187	26	500	164	703
198	480	67	1330	484	96	1207	12	488	124	307	492	148	212	27	496	175	676
199	476	72	1308	480	102	1184	13	484	133	282	488	158	238	28	492	187	649
200	472	76	1287	476	109	1161	14	479	141	257	483	168	265	29	487	199	621
201	468	81	1266	472	115	1138	15	475	149	233	479	178	291	30	483	211	593
202	464	85	1244	468	122	1116	16	471	158	203	475	188	316	31	479	222	566
203	459	90	1222	463	128	1092	17	466	166	183	470	198	343	1	474	234	538
204	454	94	1200	458	134	1068	18	461	174	158	465	208	370	2	469	246	510
205	450	99	1178	454	141	1046	19	456	183	132	460	218	396	3	464	257	482
206	445	103	1156	449	147	1022	20	451	191	112	455	228	423	4	459	269	453
November																	
207	441	108	1135	445	154	999	21	447	199	83	451	238	449	5	455	281	426
208	436	112	1113	440	160	976	22	442	207	58	446	247	475	6	450	292	398
209	430	117	1089	434	166	951	23	436	216	31	440	257	503	7	444	304	369
210	425	121	1067	429	173	927	24	431	224	6	433	267	532	8	439	316	341
211	417	126	1042	423	179	902	25	425	232	20	429	277	558	9	433	328	311
212	411	130	1018	417	186	878	26	419	241	47	423	287	585	10	427	339	282
213	408	136	1018	431	192	873	27	433	248	58	436	296	594	11	438	352	270
214	422	153	995	425	211	848	28	427	268	79	430	318	622	12	432	375	241
215	415	171	970	418	229	823	29	420	289	107	423	339	650	13	425	398	211
216	408	188	946	411	248	797	30	413	309	134	416	361	679	14	418	422	180
December																	
217	401	205	922	404	267	771	1	406	329	161	409	383	708	15	411	445	150
218	394	222	906	397	285	746	2	399	349	188	402	404	736	16	404	468	120
219	387	240	873	390	304	720	3	392	370	216	395	426	765	17	397	491	90
220	380	257	849	383	323	692	4	385	390	243	388	448	794	18	390	514	60
221	373	274	825	376	342	668	5	378	410	270	381	470	823	19	383	538	29
222	366	292	800	369	360	643	6	371	431	298	374	491	851	20	376	561	1
223	359	309	775	362	379	618	7	364	451	324	367	513	881	21	369	584	81
224	352	326	744	354	398	595	8	356	471	357	359	535	915	22	361	607	66
225	345	344	712	346	416	552	9	348	492	391	351	556	949	23	353	630	100
226	338	361	681	338	435	519	10	340	512	424	343	578	984	24	345	654	135
227	330	378	648	330	454	486	11	332	532	458	335	600	1018	25	337	677	170
228	323	395	617	322	472	453	12	324	552	491	327	621	1052	26	329	700	204
229	315	413	585	314	491	420	13	316	573	525	319	643	1086	27	321	723	239
230	307	430	552	306	510	387	14	307	593	559	310	665	1121	28	312	746	275
231	299	447	520	298	529	354	15	299	613	593	302	687	1156	29	304	770	310
232	291	465	487	290	547	321	16	291	634	626	294	708	1190	30	296	793	344
233	283	482	455	282	566	288	17	283	654	660	286	730	1224	1	288	816	379
234	274	499	422	273	585	254	18	274	674	694	277	752	1259	2	279	839	415
235	266	517	389	265	603	221	19	265	695	729	268	773	1294	3	270	862	450
236	258	534	357	257	622	188	20	256	715	763	259	795	1330	4	261	886	486
January																	
237	250	551	324	249	641	155	21	247	735	798	250	817	1365	5	252	909	522
238	241	568	291	240	659	121	22	238	755	832	241	838	1400	6	243	932	557
239	232	586	258	231	678	87	23	229	776	867	232	860	1435	7	234	955	593
240	224	603	225	223	699	54	24	220	796	901	223	882	1470	8	225	978	629
241	215	620	192	214	716	20	25	211	816	936	213	904	1507	9	215	1002	666
242	206	638	158	205	734	14	26	202	837	970	204	925	1542	10	206	1025	701
243	200	656	128	200	752	44	27	201	856	997	201	948	1571	11	202	1048	732
244	191	680	95	191	777	78	28	192	881	1031	192	974	1606	12	193	1075	768
245	181	705	60	181	802	113	29	182	907	1067	182	1000	1642	13	183	1101	804
246	171	729	26	171	827	148	30	172	932	1102	172	1027	1679	14	173	1128	841



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29		8	59	25				

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XIII.

## Sunrise from 18° to 22° N. Latitude.

Day of Solar year.	Lat. 18° —428" Long.	Lat. 19° —460" Long.	Lat. 20° —476" Long.	Lat. 21° +800" Long.	Lat. 22° —616" Long.
	Eqn. of time in seconds.	Eqn. of time in seconds.	Eqn. of time in seconds.	Eqn. of time in seconds.	Eqn. of time in seconds.
	☉'s Trop. Long. in seconds.	☉'s Trop. Long. in seconds.	☉'s Trop. Long. in seconds.	☉'s Trop. Long. in seconds.	☉'s Trop. Long. in seconds.
	Total Corr. in seconds.	Total Corr. in seconds.	Total Corr. in seconds.	Total Corr. in seconds.	Total Corr. in seconds.
	Satara.	Poona.	Nasik.	Nagpur.	Baroda.
	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920
187	+535	-54	-219	+538	-61
188	533	68	235	536	76
189	530	82	252	533	92
190	527	95	268	530	107
191	524	109	285	527	122
192	521	122	301	524	138
193	518	136	318	521	153
194	515	150	346	518	168
195	512	163	373	515	184
196	508	177	402	511	199
197	504	190	431	507	214
198	500	204	459	503	229
199	496	218	488	499	245
200	491	231	518	494	260
201	487	245	547	490	275
202	483	258	575	486	291
203	478	272	606	481	306
204	473	286	635	476	321
205	468	299	664	471	337
206	463	313	694	466	352
207	459	326	723	462	367
208	454	340	752	457	382
209	448	354	783	451	398
210	443	367	813	446	413
211	437	381	844	440	428
212	431	394	874	434	444
213	441	408	889	443	460
214	435	433	920	437	486
215	428	457	951	430	513
216	421	482	983	423	539
217	414	507	1015	416	565
218	407	531	1046	409	591
219	400	556	1078	402	618
220	393	581	1110	395	644
221	386	606	1142	388	670
222	379	630	1173	381	697
223	372	655	1204	374	723
224	364	680	1239	366	749
225	356	704	1275	358	776
226	348	729	1310	350	802
227	340	754	1346	342	828
228	332	778	1381	334	854
229	324	803	1417	326	881
230	315	828	1453	317	907
231	307	853	1489	309	933
232	299	877	1524	301	960
233	291	902	1560	293	986
234	282	927	1626	284	1012
235	273	951	1633	275	1039
236	264	976	1669	266	1065
237	255	1001	1706	257	1091
238	246	1025	1742	248	1117
239	237	1050	1779	239	1144
240	228	1075	1815	230	1170
241	218	1100	1853	220	1196
242	209	1124	1889	211	1223
243	202	1148	1924	203	1248
244	193	1175	1960	194	1276
245	183	1203	1998	184	1304
246	173	1230	2035	174	1332
1	+541	-69	-348	+546	-77
2	539	86	367	544	96
3	536	103	387	541	115
4	533	120	407	538	134
5	530	138	428	535	154
6	527	155	448	532	173
7	524	172	468	529	192
8	521	189	499	526	211
9	518	206	532	523	230
10	514	224	561	519	250
11	510	241	593	515	269
12	506	258	624	511	288
13	502	275	656	507	307
14	497	292	689	502	326
15	493	310	721	498	346
16	489	327	752	494	365
17	484	344	785	490	384
18	479	361	818	484	403
19	474	378	850	479	422
20	469	396	883	474	442
21	465	413	915	470	461
22	460	430	947	465	480
23	454	447	981	459	499
24	449	464	1010	454	518
25	443	482	1048	448	538
26	437	499	1081	442	557
27	446	516	1100	449	576
28	440	544	1134	443	605
29	433	571	1163	436	635
30	426	599	1203	429	664
1	419	627	1238	422	693
2	412	654	1272	415	722
3	405	682	1307	408	752
4	398	710	1342	401	781
5	391	738	1377	394	810
6	384	765	1411	387	840
7	377	793	1447	380	869
8	369	821	1484	372	898
9	361	848	1520	364	928
10	353	876	1557	356	957
11	345	904	1593	348	986
12	337	931	1630	340	1015
13	329	959	1667	332	1045
14	320	987	1704	323	1074
15	312	1015	1741	315	1103
16	304	1042	1777	307	1133
17	296	1070	1814	298	1162
18	287	1098	1852	290	1191
19	278	1125	1889	281	1221
20	269	1153	1927	272	1250
21	260	1181	1964	263	1279
22	251	1208	2002	254	1308
23	242	1236	2040	245	1338
24	233	1264	2077	236	1367
25	223	1292	2116	226	1396
26	214	1319	2153	217	1426
27	203	1348	2193	208	1456
28	194	1377	2231	194	1485
29	184	1405	2269	184	1514
30	174	1434	2308	174	1544
1	165	1463	2347	165	1573
2	155	1492	2386	155	1602
3	145	1521	2425	145	1631
4	135	1550	2464	135	1660
5	125	1579	2503	125	1689
6	115	1608	2542	115	1718
7	105	1637	2581	105	1747
8	95	1666	2620	95	1776
9	85	1695	2659	85	1805
10	75	1724	2698	75	1834
11	65	1753	2737	65	1863
12	55	1782	2776	55	1892
13	45	1811	2815	45	1921
14	35	1840	2854	35	1950
15	25	1869	2893	25	1979
16	15	1898	2932	15	2008
17	5	1927	2971	5	2037
18	-5	1956	3010	-5	2066
19	-15	1985	3049	-15	2095
20	-25	2014	3088	-25	2124
21	-35	2043	3127	-35	2153
22	-45	2072	3166	-45	2182
23	-55	2101	3205	-55	2211
24	-65	2130	3244	-65	2240
25	-75	2159	3283	-75	2269
26	-85	2188	3322	-85	2298
27	-95	2217	3361	-95	2327
28	-105	2246	3400	-105	2356
29	-115	2275	3439	-115	2385
30	-125	2304	3478	-125	2414

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29		8	59	25				

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.





TABLE XIII.

Sunrise from 23° to 27° N. Latitude.

Day of Solar Year.	Lat. 23° —20" Long.			Lat. 24° —876" Long.			Days of solar months.	Lat. 25° +1736" Long.			Lat. 26° +2264" Long.			Eng. date.	Lat. 27° +1544" Long.		
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.		Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.		Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.
	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920		A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920		A.D. 1840— 1920	A.D. 1840— 1920	A.D. 1840— 1920
1	—389	+ 58	+ 801	—384	+ 60	— 8	1	—380	+ 62	+2652	—376	+ 64	+3230	13	—372	+ 66	+2556
2	387	115	860	383	119	+ 52	2	379	123	2714	374	128	3296	14	370	132	2624
3	386	173	920	381	179	114	3	377	185	2778	373	192	3361	15	368	198	2692
4	384	230	978	380	238	174	4	376	247	2841	372	256	3426	16	367	264	2759
5	382	288	1038	378	298	236	5	374	308	2904	370	319	3491	17	365	329	2827
6	380	346	1098	376	358	298	6	372	370	2968	368	383	3557	18	364	395	2894
7	379	403	1156	374	417	359	7	370	432	3032	366	447	3624	19	362	461	2962
8	376	461	1217	372	477	421	8	368	494	3096	364	511	3689	20	359	527	3031
9	374	518	1223	370	536	482	9	365	555	3160	361	575	3756	21	357	593	3099
10	372	576	1236	368	596	544	10	363	617	3225	359	639	3821	22	355	659	3165
11	369	634	1273	365	656	582	11	361	679	3263	357	703	3861	23	353	725	3206
12	367	691	1408	363	715	618	12	358	740	3302	355	767	3901	24	350	791	3248
13	364	749	1443	360	775	656	13	356	802	3340	352	831	3941	25	348	857	3290
14	362	806	1477	357	834	693	14	353	864	3380	349	895	3982	26	345	923	3332
15	359	864	1513	355	894	729	15	350	925	3418	347	958	4021	27	342	988	3374
16	356	922	1549	352	954	767	16	348	987	3456	344	1022	4062	28	340	1054	3415
17	353	979	1585	349	1013	804	17	345	1049	3495	341	1086	4103	29	338	1120	3456
18	350	1037	1620	346	1073	842	18	342	1111	3535	338	1150	4144	30	336	1186	3498
19	346	1094	1658	343	1132	879	19	338	1172	3574	336	1214	4183	1	334	1252	3539
20	343	1152	1694	339	1192	917	20	336	1234	3612	334	1278	4223	2	332	1318	3580
21	340	1210	1730	335	1252	956	21	334	1296	3650	332	1342	4263	3	330	1384	3621
22	338	1267	1765	333	1311	994	22	332	1357	3688	330	1406	4302	4	328	1450	3662
23	336	1325	1799	331	1371	1028	23	330	1419	3716	328	1470	4342	5	326	1516	3704
24	334	1382	1833	329	1430	1065	24	328	1481	3764	326	1534	4382	6	324	1582	3745
25	332	1440	1868	326	1490	1102	25	326	1542	3802	324	1597	4421	7	322	1648	3786
26	330	1498	1903	324	1550	1129	26	324	1604	3840	322	1661	4461	8	320	1714	3827
27	328	1555	1938	322	1609	1185	27	322	1666	3878	320	1725	4501	9	318	1780	3868
28	326	1613	1973	320	1669	1211	28	320	1728	3916	318	1789	4541	10	316	1846	3909
29	324	1671	2008	318	1728	1248	29	318	1789	3955	316	1853	4590	11	314	1912	3961
30	322	1728	2043	316	1788	1284	30	316	1852	3992	314	1916	4620	12	312	1976	3992
31	320	1762	2078	314	1823	1321	1	314	1888	4030	312	1954	4660	13	310	2015	4033
32	318	1795	2113	312	1857	1358	2	312	1924	4068	310	1932	4699	14	308	2054	4074
33	316	1827	2147	310	1892	1393	3	310	1960	4107	308	2029	4739	15	306	2094	4116
34	314	1859	2185	308	1926	1430	4	308	1997	4144	306	2067	4779	16	304	2133	4157
35	312	1892	2226	305	1960	1467	5	306	2032	4182	304	2104	4818	17	302	2172	4198
36	310	1925	2251	303	1995	1503	6	304	2068	4220	302	2142	4858	18	300	2211	4239
37	307	1958	2287	301	2029	1540	7	302	2104	4258	299	2180	4899	19	297	2250	4281
38	302	1990	2324	299	2064	1577	8	297	2141	4299	294	2218	4942	20	292	2290	4326
39	296	2024	2363	293	2098	1617	9	291	2176	4341	288	2255	4985	21	286	2329	4371
40	290	2057	2402	287	2132	1657	10	285	2212	4383	283	2293	5028	22	280	2368	4416
41	284	2090	2440	282	2167	1698	11	279	2248	4425	277	2331	5171	23	275	2407	4461
42	278	2123	2442	275	2201	1701	12	273	2284	4429	271	2368	5075	24	269	2446	4465
43	272	2155	2443	269	2235	1703	13	267	2320	4432	265	2406	5078	25	263	2486	4470
44	266	2187	2445	263	2270	1705	14	261	2356	4435	259	2444	5082	26	257	2525	4474
45	259	2220	2447	257	2304	1707	15	255	2392	4438	253	2481	5085	27	251	2564	4479
46	253	2253	2449	251	2339	1710	16	249	2428	4440	247	2519	5089	28	245	2603	4483
47	246	2286	2452	244	2373	1713	17	243	2464	4444	240	2557	5094	29	239	2642	4487
48	240	2318	2453	238	2407	1716	18	236	2500	4447	234	2595	5097	30	232	2682	4493
49	234	2352	2455	232	2442	1717	19	230	2537	4450	228	2632	5101	31	226	2721	4497
50	227	2385	2457	225	2476	1720	20	223	2572	4453	221	2670	5105	1	220	2760	4502
51	220	2418	2460	218	2511	1723	21	217	2608	4456	215	2708	5109	2	213	2799	4507
52	214	2451	2462	212	2545	1725	22	210	2644	4460	208	2745	5114	3	207	2838	4511
53	207	2483	2464	205	2579	1728	23	203	2681	4464	201	2783	5117	4	200	2878	4517
54	200	2515	2466	198	2614	1731	24	197	2716	4467	195	2821	5122	5	193	2917	4522
55	193	2548	2469	191	2648	1734	25	190	2752	4471	188	2858	5126	6	186	2956	4528
56	186	2581	2472	184	2682	1737	26	183	2788	4474	181	2896	5131	7	180	2995	4532
57	178	2614	2476	177	2717	1741	27	175	2824	4479	174	2934	5136	8	173	3034	4537
58	174	2646	2475	174	2752	1740	28	171	2860	4480	171	2972	5136	9	170	3074	4539
59	171	2679	2474	171	2786	1739	29	168	2896	4480	168	3009	5137	10	167	3113	4540
60	167	2712	2473	167	2820	1739	30	165	2932	4480	165	3047	5137	11	164	3152	4542
61	163	2744	2473	163	2856	1739	31	162	2968	4480	162	3084	5138	12	161	3192	4543
62	159	2740	2472	159	2852	1739	32	159	2965	4480	159	3082	5139	13	158	3190	4544

TABLE XIII.

Sunrise from 23° to 27° N. Latitude.

Day of Solar year.	Lat. 23° —20" Long.			Lat. 24° —876" Long.			Days of solar months.	Lat. 25° +1736" Long.			Eqn. of Time in seconds.	Lat. 26° +2264" Long.			Eng. date.	Lat. 27° +1544" Long.		
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.		Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.		Eqn. of Time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.		Eqn. of Time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.
		A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920				A.D. 1840— 1920				A.D. 1840— 1920	
63	-155	+2735	+2472	-155	+2848	+1739	1	-156	+2962	+4480	-156	+3079	+5139	14	-155	+3189	+4546	
64	151	2731	2472	151	2844	1739	2	150	2959	4483	150	3077	5143	15	150	3187	4549	
65	143	2726	2475	142	2840	1744	3	142	2956	4488	141	3074	5149	16	147	3186	4551	
66	134	2722	2480	133	2837	1749	4	133	2952	4493	133	3072	5155	17	132	3184	4564	
67	125	2718	2485	125	2833	1754	5	124	2949	4499	124	3070	5162	18	123	3182	4571	
68	116	2713	2489	116	2830	1759	6	115	2946	4505	115	3067	5168	19	115	3181	4578	
69	107	2709	2494	106	2825	1765	7	106	2943	4511	106	3065	5175	20	105	3179	4586	
70	98	2704	2498	97	2821	1770	8	97	2940	4517	97	3062	5181	21	97	3178	4593	
71	88	2700	2504	88	2817	1776	9	88	2937	4524	88	3060	5188	22	87	3176	4601	
72	79	2606	2482	79	2813	1754	10	79	2934	4501	79	3058	5164	23	78	3174	4577	
73	70	2691	2461	70	2809	1722	11	70	2931	4478	70	3055	5141	24	69	3173	4552	
74	61	2686	2439	61	2805	1710	12	60	2928	4456	60	3053	5118	25	60	3171	4528	
75	53	2682	2417	53	2801	1687	13	52	2925	4432	52	3050	5094	26	52	3170	4503	
76	42	2678	2397	42	2797	1666	14	42	2921	4411	42	3048	5071	27	41	3168	4480	
77	33	2674	2375	33	2794	1644	15	33	2918	4388	32	3046	5049	28	32	3166	4456	
78	24	2669	2354	24	2790	1622	16	24	2915	4365	24	3043	5024	29	24	3165	4431	
79	15	2665	2333	15	2786	1600	17	14	2912	4343	14	3041	5002	30	14	3163	4408	
80	5	2660	2312	5	2782	1579	18	5	2909	4320	5	3038	4978	1	5	3162	4383	
81	-4	2656	2290	+4	2778	1557	19	+4	2906	4297	+4	3036	4955	2	+4	3160	4359	
82	13	2652	2268	13	2774	1535	20	13	2903	4274	13	3034	4931	3	13	3158	4335	
83	23	2647	2248	23	2770	1514	21	22	2900	4251	22	3031	4908	4	22	3157	4310	
84	32	2643	2226	32	2766	1492	22	32	2897	4229	32	3029	4885	5	32	3155	4287	
85	42	2638	2206	42	2762	1471	23	41	2894	4206	41	3026	4862	6	41	3154	4263	
86	51	2634	2184	50	2758	1447	24	50	2890	4183	50	3024	4838	7	50	3152	4238	
87	60	2630	2162	59	2755	1425	25	59	2887	4161	59	3022	4815	8	59	3150	4214	
88	69	2625	2141	69	2751	1404	26	69	2884	4139	68	3019	4791	9	68	3149	4190	
89	78	2621	2119	78	2747	1382	27	78	2881	4116	78	3017	4769	10	77	3147	4166	
90	87	2616	2098	87	2743	1360	28	87	2878	4093	87	3014	4745	11	86	3146	4141	
91	107	2612	2087	107	2740	1349	29	108	2876	4082	108	3012	4734	12	108	3144	4130	
92	117	2581	2066	118	2709	1329	30	118	2844	4060	118	2979	4711	13	119	3111	4100	
93	127	2551	2046	128	2678	1308	31	128	2812	4038	128	2947	4689	14	129	3077	4084	
94	137	2520	2025	138	2647	1287	32	138	2780	4016	138	2914	4666	15	139	3044	4061	
95	147	2490	2005	148	2616	1266	1	148	2748	3994	148	2882	4644	16	149	3011	4038	
96	157	2459	1984	158	2584	1245	2	158	2717	3972	158	2849	4621	17	159	2977	4014	
97	167	2428	1963	168	2553	1223	3	168	2685	3951	168	2817	4599	18	169	2944	3991	
98	177	2398	1943	177	2522	1201	4	178	2653	3929	178	2784	4576	19	179	2911	3968	
99	187	2368	1922	187	2491	1180	5	188	2621	3907	188	2752	4554	20	189	2878	3945	
100	196	2337	1901	197	2460	1159	6	197	2589	3884	198	2719	4531	21	198	2844	3920	
101	206	2306	1880	206	2429	1137	7	207	2557	3862	207	2687	4508	22	208	2811	3897	
102	215	2275	1859	216	2398	1116	8	217	2525	3841	217	2654	4485	23	218	2778	3874	
103	225	2245	1836	226	2367	1092	9	226	2493	3814	227	2622	4457	24	227	2744	3844	
104	235	2214	1814	235	2336	1067	10	236	2461	3788	236	2589	4429	25	237	2711	3815	
105	244	2184	1790	244	2305	1041	11	245	2429	3761	246	2557	4401	26	246	2678	3784	
106	253	2153	1767	254	2273	1017	12	254	2397	3734	255	2524	4372	27	256	2644	3755	
107	262	2122	1743	263	2242	1011	13	263	2366	3707	264	2492	4343	28	265	2611	3725	
108	271	2092	1720	272	2211	974	14	273	2334	3682	273	2459	4315	29	274	2578	3695	
109	280	2061	1696	281	2180	941	15	282	2302	3655	283	2427	4287	30	283	2545	3665	
110	291	2031	1675	290	2149	916	16	291	2270	3628	292	2394	4258	31	292	2511	3634	
111	298	2000	1649	299	2118	890	17	299	2238	3600	300	2362	4229	1	301	2478	3604	
112	307	1969	1626	308	2087	865	18	308	2206	3573	309	2329	4200	2	310	2445	3574	
113	315	1939	1601	316	2056	839	19	317	2174	3546	318	2297	4171	3	319	2411	3544	
114	324	1908	1578	325	2025	813	20	326	2142	3519	327	2264	4143	4	328	2378	3514	
115	333	1878	1554	333	1994	787	21	334	2110	3491	335	2232	4113	5	336	2345	3482	
116	341	1847	1530	342	1963	762	22	343	2078	3464	344	2199	4084	6	344	2311	3451	
117	349	1816	1505	350	1931	735	23	351	2047	3436	352	2167	4054	7	353	2278	3421	
118	358	1786	1482	358	1900	709	24	359	2015	3409	360	2134	4025	8	361	2245	3390	
119	365	1755	1456	366	1869	683	25	367	1983	3381	368	2102	3995	9	369	2212	3359	
120	373	1725	1432	374	1838	657	26	375	1951	3353	376	2069	3965	10	377	2178	3327	
121	382	1694	1408	385	1807	633	27	387	1919	3329	389	2037	3941	11	391	2145	3305	
122	390	1664	1384	393	1776	607	28	395	1888	3301	397	2004	3919	12	400	2112	3272	
123	397	1631	1358	400	1742	580	29	402	1852	3272	404	1966	3918	13	407	2073	3240	
124	405	1599	1334	408	1708	553	30	410	1816	3244	412	1929	3888	14	415	2034	3206	
125	412	1566	1308	415	1673	526	31	417	1780	3215	419	1891	3858	15	422	1994	3179	

TABLE XIII.

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## Sunrise from 23° to 27° N. Latitude.

Day of Solar year.	Lat. 23° -20" Long.			Lat. 24° -876" Long.			Days of solar months.	Lat. 25° +1786" Long.			Lat. 26° +2264" Long.			Lat. 27° +1544" Long.			
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.		Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	
	A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920			
126	+420	+1534	+1284	+422	+1639	+499	1	+424	+1744	+3186	+426	+1853	+3827	16	+429	+1955	+3144
127	427	1501	1258	429	1604	471	2	431	1708	3157	433	1815	3796	17	436	1916	3112
128	434	1469	1233	436	1570	444	3	438	1673	3129	440	1778	3765	18	443	1877	3080
129	441	1436	1207	443	1536	417	4	445	1637	3100	447	1740	3735	19	450	1838	3048
130	448	1404	1182	450	1502	390	5	452	1601	3071	454	1702	3704	20	457	1798	3015
131	454	1371	1155	456	1467	361	6	458	1565	3041	460	1665	3672	21	463	1759	2982
132	460	1339	1128	462	1433	334	7	464	1529	3012	466	1627	3641	22	469	1720	2949
133	467	1306	1113	469	1399	317	8	471	1493	2993	473	1589	3609	23	476	1681	2926
134	473	1274	1097	475	1364	299	9	477	1457	2973	479	1552	3559	24	482	1642	2902
135	479	1241	1080	481	1330	281	10	483	1421	2952	485	1514	3537	25	488	1602	2877
136	485	1209	1064	487	1296	263	11	489	1385	2932	491	1476	3515	26	494	1563	2853
137	490	1176	1047	493	1261	244	12	495	1349	2912	497	1438	3492	27	500	1524	2829
138	496	1144	1031	499	1227	226	13	501	1314	2892	503	1401	3470	28	506	1485	2805
139	502	1111	1015	505	1193	208	14	507	1278	2872	509	1363	3448	29	512	1446	2781
140	507	1079	1007	510	1159	189	15	512	1242	2850	514	1325	3425	30	517	1406	2755
141	512	1046	980	515	1124	170	16	517	1206	2829	519	1288	3402	31	522	1367	2730
142	517	1014	963	520	1090	141	17	522	1170	2808	524	1250	3379	1	527	1328	2705
143	522	981	946	525	1056	132	18	527	1134	2787	529	1212	3356	2	532	1289	2680
144	527	949	929	530	1021	113	19	532	1098	2766	534	1175	3333	3	537	1250	2655
145	531	916	910	535	987	94	20	537	1062	2744	539	1137	3310	4	542	1210	2629
146	536	884	893	539	953	74	21	541	1026	2722	543	1099	3286	5	546	1171	2603
147	540	851	875	542	918	52	22	545	990	2700	547	1061	3261	6	550	1132	2577
148	544	819	857	546	884	32	23	546	955	2675	552	1024	3238	7	552	1093	2549
149	546	786	837	548	850	10	24	547	919	2650	554	986	3212	8	554	1054	2521
150	547	754	815	550	816	12	25	548	883	2624	555	948	3185	9	556	1014	2492
151	548	721	794	551	781	35	26	550	847	2600	556	911	3158	10	558	975	2464
152	549	688	773	552	748	58	27	551	812	2575	558	872	3132	11	560	936	2436
153	550	666	752	553	724	81	28	553	786	2551	559	844	3105	12	562	906	2408
154	551	644	731	555	700	103	29	554	760	2526	560	816	3078	13	564	876	2380
155	552	621	709	556	676	126	30	555	733	2500	561	788	3051	14	566	845	2341
156	553	599	688	557	652	149	31	556	707	2475	563	760	3025	15	568	815	2323
157	554	577	667	558	627	175	1	558	681	2451	565	731	2998	16	570	785	2295
158	555	555	646	560	603	195	2	560	655	2427	567	703	2972	17	572	755	2267
159	557	533	626	562	579	217	3	562	629	2403	570	675	2947	18	574	725	2239
160	559	510	606	564	555	239	4	564	602	2380	572	647	2927	19	576	694	2210
161	561	488	585	566	531	359	5	566	576	2354	574	619	2895	20	578	664	2182
162	562	466	564	567	507	334	6	568	550	2330	575	591	2868	21	579	634	2153
163	564	444	544	569	483	307	7	570	524	2306	577	562	2841	22	581	604	2125
164	566	422	523	571	459	330	8	572	498	2281	579	535	2814	23	583	574	2096
165	567	399	501	572	435	354	9	574	471	2256	580	507	2786	24	584	543	2066
166	567	377	478	572	411	379	10	576	445	2231	580	479	2756	25	584	523	2034
167	568	355	456	573	386	403	11	577	419	2205	581	450	2729	26	585	483	2004
168	569	333	435	574	362	426	12	578	393	2179	582	422	2701	27	586	453	1974
169	570	311	413	575	338	450	13	579	367	2152	583	394	2672	28	587	423	1944
170	570	288	390	575	314	475	14	579	340	2125	583	366	2643	29	587	392	1913
171	570	266	367	575	290	500	15	579	314	2098	583	338	2614	30	587	362	1881
172	570	244	344	575	266	525	16	579	288	2071	583	310	2585	1	587	332	1850
173	570	222	321	575	242	550	17	579	262	2044	583	282	2556	2	587	302	1819
174	570	200	298	575	218	575	18	579	236	2017	583	254	2527	3	587	272	1788
175	570	177	275	575	194	600	19	579	209	1990	583	226	2498	4	587	241	1757
176	570	155	252	575	170	625	20	579	183	1963	583	198	2469	5	587	211	1725
177	569	133	228	574	145	651	21	578	157	1935	582	169	2439	6	586	181	1693
178	568	111	205	573	121	676	22	577	131	1907	581	141	2409	7	585	151	1661
179	567	89	181	572	97	702	23	576	105	1878	580	113	2378	8	584	121	1629
180	566	66	151	571	73	728	24	575	78	1850	579	85	2348	9	583	90	1597
181	564	44	132	569	49	755	25	573	52	1821	577	57	2317	10	581	60	1563
182	563	22	108	568	25	781	26	572	26	1793	576	29	2287	11	580	30	1531
183	562	0	84	566	0	808	27	570	0	1764	575	0	2257	12	579	0	1499
184	560	—	59	564	—	835	28	568	—	1735	573	—	2226	13	577	—	1466
185	558	46	34	562	50	862	29	566	54	1706	571	58	2195	14	575	62	1433
186	556	69	9	560	75	889	30	564	81	1677	569	87	2164	15	573	94	1399

TABLE XIII.

Sunrise from 23° to 27° N. Latitude.

Day of Solar year.	Lat. 23° -20' Long.			Lat. 24° -876' Long.			Days of solar months.	Lat 25° +1736' Long.			Lat. 26° +2264' Long.			Lat. 27° +1544' Long.			
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Indore.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Anhilwad.		Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Benares.	Eqn. of Time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Patna.	Eng. date.	Eqn. of Time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Oudh.
	A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920		
187	+554	-92	-24	+558	-100	-916	1	+562	-108	+1648	+567	-116	+2133	16	+571	-125	+1366
188	551	114	41	555	124	943	2	559	135	1618	564	145	2101	17	568	156	1332
189	548	137	67	552	149	971	3	556	163	1587	561	175	2068	18	565	187	1298
190	545	160	93	549	174	999	4	553	190	1557	558	204	2036	19	562	218	1264
191	542	183	119	546	199	1027	5	550	217	1527	555	232	2004	20	559	250	1229
192	539	206	145	543	224	1055	6	547	244	1497	552	262	1972	21	556	281	1195
193	536	229	172	540	249	1084	7	543	271	1467	548	291	1940	22	552	312	1160
194	533	252	208	537	274	1121	8	540	298	1428	545	320	1899	23	549	343	1118
195	530	275	243	534	299	1159	9	536	325	1388	541	349	1858	24	545	374	1075
196	526	298	279	530	324	1197	10	532	352	1348	537	378	1816	25	541	406	1031
197	522	321	316	526	349	1235	11	528	379	1308	533	407	1774	26	537	437	988
198	518	343	352	522	373	1273	12	524	406	1269	529	436	1733	27	533	468	945
199	514	366	389	518	398	1312	13	520	434	1229	525	466	1691	28	529	499	902
200	509	389	426	513	423	1351	14	515	461	1188	520	495	1648	29	524	530	858
201	505	412	463	509	448	1389	15	511	488	1148	515	524	1605	30	519	562	813
202	501	435	499	505	473	1428	16	507	515	1108	511	553	1564	31	515	593	770
203	496	458	537	500	498	1467	17	502	542	1067	506	582	1521	1	510	624	726
204	491	481	574	495	523	1506	18	497	569	1026	500	611	1457	2	504	655	681
205	486	504	612	490	548	1546	19	492	596	985	495	640	1435	3	499	686	637
206	481	527	649	485	573	1585	20	487	623	944	490	669	1392	4	494	718	592
207	477	550	686	481	598	1623	21	483	650	904	486	698	1350	5	490	749	549
208	472	572	723	476	622	1662	22	478	677	864	480	727	1307	6	484	780	504
209	466	595	762	470	647	1703	23	472	705	822	474	757	1263	7	478	811	459
210	461	618	799	465	672	1742	24	467	732	781	468	786	1219	8	472	842	414
211	455	641	838	459	697	1782	25	461	759	739	462	815	1175	9	466	874	358
212	450	664	875	454	722	1822	26	455	786	697	458	844	1134	10	462	905	325
213	446	688	912	450	748	1860	27	452	812	658	455	872	1093	11	458	936	282
214	445	721	945	447	782	1897	28	449	848	613	452	910	1052	12	455	975	240
215	441	753	982	444	817	1935	29	446	884	580	449	947	1012	13	452	1014	198
216	434	785	1021	437	851	1976	30	439	920	537	442	985	967	14	445	1054	151
217	427	818	1061	430	885	2017	1	432	956	494	435	1023	922	15	438	1093	105
218	420	850	1100	423	919	2058	2	425	991	452	428	1060	878	16	431	1132	59
219	412	883	1141	415	954	2101	3	417	1027	408	420	1098	832	17	423	1171	12
220	405	915	1180	408	988	2142	4	410	1063	365	413	1136	787	18	416	1210	34
221	397	948	1221	400	1022	2184	5	402	1099	321	405	1174	741	19	408	1250	82
222	389	980	1261	392	1057	2227	6	394	1135	277	397	1211	696	20	400	1289	129
223	381	1013	1303	384	1091	2268	7	386	1171	234	389	1249	649	21	392	1328	176
224	373	1045	1342	376	1125	2307	8	378	1207	194	381	1287	609	22	384	1367	217
225	365	1078	1380	368	1160	2346	9	370	1243	154	373	1324	568	23	376	1406	259
226	357	1110	1419	360	1194	2385	10	362	1279	114	365	1362	528	24	368	1446	300
227	348	1143	1458	351	1228	2425	11	353	1315	73	356	1400	486	25	359	1485	342
228	340	1175	1497	343	1262	2464	12	345	1350	34	348	1437	446	26	351	1524	383
229	332	1208	1536	335	1297	2504	13	337	1386	6	340	1475	405	27	343	1563	425
230	323	1240	1575	326	1331	2544	14	328	1422	47	331	1513	364	28	334	1602	463
231	314	1273	1615	317	1365	2584	15	319	1458	88	322	1551	322	29	325	1642	509
232	306	1305	1653	309	1400	2623	16	311	1494	128	314	1588	282	30	317	1681	551
233	297	1338	1693	300	1434	2663	17	302	1530	169	305	1626	240	31	308	1720	593
234	287	1370	1734	290	1468	2704	18	292	1566	211	295	1664	198	1	298	1759	636
235	278	1403	1773	281	1503	2744	19	282	1602	253	286	1701	156	2	289	1798	679
236	269	1435	1813	272	1537	2784	20	274	1638	293	277	1739	115	3	280	1838	721
237	260	1468	1852	263	1571	2824	21	265	1674	334	268	1777	73	4	271	1877	763
238	251	1500	1892	254	1605	2864	22	256	1709	374	259	1814	32	5	262	1916	806
239	241	1533	1933	245	1640	2905	23	246	1745	416	249	1852	11	6	252	1955	849
240	232	1565	1972	236	1674	2945	24	237	1781	457	240	1890	52	7	243	1994	891
241	222	1598	2013	226	1708	2986	25	227	1817	499	230	1928	92	8	233	2034	934
242	213	1630	2052	217	1743	3026	26	218	1853	540	221	1965	136	9	224	2073	977
243	205	1664	2091	205	1776	3069	27	206	1888	584	206	2004	184	10	207	2112	1027
244	196	1695	2131	196	1807	3109	28	197	1920	625	197	2036	225	11	198	2151	1069
245	186	1725	2171	186	1838	3150	29	187	1952	667	187	2069	268	12	188	2179	1113
246	176	1756	2212	176	1869	3191	30	177	1984	709	177	2101	310	13	178	2212	1156

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XIII.

Sunrise from 23° to 27° N. Latitude.

Day of Solar year.	Lat. 23° -20" Long.			Lat. 24° -876" Long.			Days of solar months.	Lat. 25° +1736" Long.			Lat. 26° +2264" Long.			Lat. 27° +1544" Long.			
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Indore.	Eqn. of Time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Anhilwad.		Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Benares.	Eqn. of Time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Patna	Eng. date.	Eqn. of Time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Oudh.
	A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920		
306	-297	-2678	-2339	-295	-2787	-3270	1	-293	-2896	-733	-290	-3009	-281	12	-288	-3114	-1074
307	300	2646	2310	297	2753	3238	2	295	2860	699	292	2971	245	13	290	3074	1036
308	303	2613	2280	300	2718	3206	3	298	2824	666	295	2933	210	14	293	3035	1000
309	305	2580	2249	302	2684	3174	4	300	2788	632	297	2895	173	15	295	2996	963
310	308	2547	2219	305	2650	3143	5	303	2752	599	300	2858	140	16	298	2957	927
311	311	2514	2189	307	2615	3110	6	305	2716	565	302	2820	104	17	300	2918	890
312	314	2482	2160	310	2581	3081	7	308	2680	532	305	2782	69	18	303	2878	853
313	316	2449	2129	312	2546	3046	8	310	2644	498	307	2745	34	19	305	2839	816
314	319	2416	2099	315	2512	3015	9	313	2608	465	310	2707	+ 1	20	308	2800	780
315	322	2388	2070	317	2478	2981	10	315	2572	431	312	2669	36	21	310	2761	742
													February				
316	325	2350	2015	320	2443	2924	11	318	2536	372	315	2632	97	22	313	2722	679
317	327	2318	1960	322	2409	2867	12	320	2500	318	317	2594	159	23	315	2682	615
318	330	2285	1905	325	2374	2810	13	323	2464	254	320	2556	220	24	318	2643	552
319	333	2252	1851	327	2340	2753	14	325	2428	194	322	2518	282	25	320	2604	488
320	336	2219	1796	330	2306	2696	15	328	2392	135	325	2481	343	26	323	2565	425
321	338	2196	1740	332	2271	2638	16	330	2356	76	327	2443	404	27	325	2526	360
322	341	2154	1686	335	2237	2582	17	333	2320	17	330	2405	465	28	328	2486	299
323	344	2121	1631	337	2202	2524	18	335	2284	+ 43	332	2368	527	1	330	2447	235
324	347	2088	1577	340	2168	2468	19	338	2248	101	335	2330	588	2	333	2408	172
325	349	2055	1521	342	2134	2410	20	340	2212	161	337	2292	650	3	335	2369	108
326	352	2022	1466	345	2099	2353	21	343	2176	220	340	2255	711	4	338	2330	45
327	355	1990	1412	347	2065	2296	22	345	2140	279	342	2217	773	5	340	2290	+ 19
328	358	1957	1357	350	2030	2239	23	348	2104	338	345	2179	834	6	343	2251	82
329	360	1924	1302	353	1996	2183	24	350	2068	398	347	2141	896	7	345	2212	146
330	363	1891	1247	356	1962	2126	25	353	2032	457	350	2104	957	8	348	2173	209
331	366	1858	1192	359	1927	2069	26	355	1996	516	352	2066	1018	9	350	2134	272
332	369	1826	1138	362	1893	2013	27	358	1960	575	355	2028	1080	10	353	2094	335
333	371	1793	1082	365	1858	1956	28	361	1924	634	357	1991	1141	11	355	2055	399
334	374	1760	1028	368	1824	1900	29	364	1888	702	360	1953	1202	12	357	2016	463
335	376	1728	972	371	1788	1843	1	367	1852	751	363	1916	1263	13	359	1976	527
336	376	1670	914	371	1728	1783	2	367	1790	813	363	1852	1327	14	359	1910	593
337	377	1613	858	372	1669	1725	3	368	1729	873	364	1788	1390	15	360	1844	658
338	377	1555	800	372	1609	1665	4	368	1667	935	364	1724	1454	16	360	1778	724
339	378	1498	744	373	1550	1607	5	369	1605	996	365	1660	1517	17	361	1712	789
340	378	1440	680	373	1490	1547	6	369	1543	1058	365	1596	1571	18	361	1646	855
341	379	1382	629	374	1430	1488	7	370	1482	1118	366	1533	1643	19	362	1581	919
342	379	1325	572	374	1371	1429	8	370	1420	1180	366	1469	1707	20	362	1515	985
343	380	1267	515	375	1311	1370	9	371	1358	1240	367	1405	1770	21	363	1449	1050
344	380	1210	456	375	1252	1311	10	371	1297	1300	367	1341	1830	22	363	1383	1116
345	381	1152	401	376	1192	1252	11	372	1235	1364	368	1277	1896	23	364	1317	1180
346	381	1094	343	376	1132	1192	12	372	1173	1426	368	1213	1960	24	364	1251	1246
347	382	1037	287	377	1073	1134	13	373	1112	1486	369	1149	2008	25	365	1185	1311
348	382	979	229	377	1013	1074	14	373	1050	1548	369	1086	2087	26	365	1119	1377
349	383	922	173	378	954	1016	15	374	988	1609	370	1021	2150	27	366	1053	1442
350	383	864	115	378	894	956	16	374	926	1670	370	957	2213	28	366	987	1507
351	384	806	58	379	834	897	17	375	865	1731	371	894	2276	29	367	922	1572
352	384	749	1	379	775	838	18	375	803	1793	371	829	2340	30	367	856	1638
353	385	691	+ 56	380	715	779	19	376	741	1854	372	766	2403	31	368	790	1703
354	385	634	113	380	656	720	20	376	670	1945	372	702	2467	1	368	724	1769
355	386	576	170	381	596	661	21	377	618	1976	373	638	2530	2	369	658	1834
356	386	518	225	381	536	601	22	377	556	2038	373	574	2594	3	369	592	1900
357	387	461	284	382	477	543	23	378	495	2098	374	510	2657	4	370	526	1966
358	387	403	342	382	417	483	24	378	433	2160	374	446	2721	5	370	460	2031
359	388	346	398	383	358	425	25	379	371	2221	375	382	2784	6	371	394	2096
360	388	288	456	383	298	365	26	379	309	2282	375	318	2847	7	371	328	2161
361	389	230	513	384	238	306	27	380	248	2343	376	255	2910	8	372	263	2226
362	389	173	570	384	179	247	28	380	186	2405	376	191	2974	9	372	197	2292
363	390	115	627	385	119	188	29	381	125	2466	377	127	3037	10	373	131	2357
364	390	58	684	385	60	129	30	381	63	2527	377	64	3101	11	373	65	2423
365	391	0	741	386	0	70	31	382	0	2588	378	0	3164	12	374	0	2488

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14
	June	34	1	31
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		- 6	20	
	June	33	55	11
				1 19 47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	☾'s Anom.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.		0	30	13	
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.					
Sum - 18 gh. 15 p.		- 18	15		
	July	11	21	29	
					☉'s Yoga Eqn.) + 1 25
					8 59 25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



TABLE XIII.

Sunrise from 28° to 32° N. Latitude.

Day of Solar year	Lat. 28° +460'' Long.			Lat. 29° +352'' Long.			Lat. 30° +152'' Long.			Lat. 31° +332'' Long.			Lat. 32° +348'' Long.				
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.		
	A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920				
63	-154	+3310	+3594	-153	+3428	+3624	1	-151	+3553	+3567	-153	+3683	+3890	14	-146	+3813	+3865
64	150	3309	3597	149	3428	3628	2	147	3554	3573	146	3684	3999	15	142	3815	3871
65	141	3308	3605	140	3427	3637	3	140	3555	3581	139	3686	3909	16	139	3817	3876
66	132	3306	3612	131	3427	3646	4	131	3555	3590	131	3687	3918	17	130	3819	3887
67	123	3305	3620	123	3427	3654	5	122	3556	3600	122	3689	3929	18	121	3822	3899
68	114	3304	3628	114	3427	3663	6	113	3557	3609	113	3690	3939	19	113	3824	3909
69	105	3303	3636	105	3427	3672	7	104	3558	3619	104	3692	3950	20	104	3826	3920
70	96	3302	3644	96	3427	3681	8	96	3558	3628	95	3693	3960	21	95	3829	3932
71	87	3301	3653	87	3427	3690	9	87	3559	3637	86	3695	3970	22	86	3831	3942
72	78	3300	3662	78	3427	3698	10	78	3560	3646	77	3696	3983	23	77	3833	3954
Bengal, Ashadha.																	
73	69	3299	3603	69	3426	3638	11	69	3560	3584	69	3698	3915	24	68	3836	3886
74	60	3298	3578	60	3426	3612	12	59	3561	3558	59	3699	3888	25	59	3838	3858
75	52	3297	3552	52	3426	3585	13	52	3562	3530	51	3701	3860	26	51	3840	3829
76	41	3295	3529	41	3426	3561	14	41	3562	3505	41	3702	3834	27	41	3842	3802
77	32	3294	3505	32	3426	3536	15	32	3563	3479	32	3704	3807	28	32	3845	3774
78	23	3293	3480	23	3426	3510	16	23	3564	3452	23	3705	3780	29	23	3847	3746
79	14	3292	3455	14	3426	3484	17	14	3565	3426	14	3707	3752	30	14	3849	3718
80	5	3291	3430	5	3425	3459	18	5	3565	3399	5	3708	3725	1	5	3852	3690
81	+ 4	3290	3405	+ 4	3425	3433	19	+ 4	3566	3373	+ 4	3710	3698	2	+ 4	3854	3664
82	13	3289	3380	13	3425	3407	20	13	3567	3346	13	3711	3672	3	13	3856	3634
Tamil, Aani; Malayalam, Mithunam; Bengali, Ashadha.																	
83	22	3288	3355	22	3425	3382	21	22	3567	3320	22	3713	3644	4	22	3859	3606
84	32	3287	3331	32	3425	3357	22	31	3568	3293	31	3714	3616	5	31	3861	3578
85	41	3286	3306	41	3425	3331	23	41	3569	3268	41	3716	3590	6	41	3863	3551
86	50	3284	3281	50	3425	3305	24	50	3569	3241	49	3717	3562	7	49	3865	3522
87	59	3283	3257	59	3425	3280	25	58	3570	3214	58	3719	3535	8	58	3868	3494
88	68	3282	3232	68	3424	3254	26	68	3570	3188	67	3720	3508	9	67	3870	3466
89	77	3281	3207	77	3424	3228	27	77	3571	3162	76	3722	3480	10	76	3872	3438
90	86	3280	3182	86	3424	3203	28	85	3572	3134	85	3723	3453	11	85	3875	3410
91	109	3280	3171	109	3424	3191	29	109	3572	3123	110	3724	3442	12	110	3876	3388
92	119	3246	3147	119	3389	3166	30	120	3536	3098	120	3688	3416	13	120	3889	3371
93	129	3212	3123	129	3355	3142	31	130	3501	3073	130	3652	3390	14	131	3902	3354
94	139	3178	3099	140	3320	3118	32	140	3465	3047	140	3615	3363	15	141	3915	3326
Tamil, Adi; Malayalam, Karkatagam; Bengali, Shrawana.																	
95	149	3144	3075	150	3285	3093	1	150	3430	3022	150	3579	3337	16	151	3928	3298
96	159	3110	3051	160	3250	3068	2	160	3394	2996	161	3543	3312	17	161	3941	3274
97	169	3077	3028	170	3216	3044	3	170	3359	2971	171	3507	3286	18	171	3954	3247
98	179	3043	3004	180	3181	3019	4	180	3323	2945	181	3471	3260	19	181	3967	3219
99	189	3009	2980	190	3146	2994	5	191	3288	2921	191	3434	3233	20	192	3980	3194
100	199	2975	2956	199	3112	2969	6	200	3252	2894	201	3398	3207	21	201	3993	3166
101	209	2941	2932	209	3077	2944	7	210	3217	2869	210	3362	3180	22	211	4006	3138
102	218	2907	2906	219	3042	2919	8	220	3181	2844	220	3326	3152	23	221	4019	3110
103	228	2873	2875	229	3008	2886	9	229	3146	2808	230	3290	3115	24	231	4032	3082
104	238	2839	2844	238	2973	2852	10	239	3110	2774	240	3253	3078	25	241	4045	3054
Tamil, Aadi; Malayalam, Karkatagam; Bengali, Shrawana.																	
105	247	2805	2812	248	2938	2820	11	249	3075	2739	249	3217	3041	26	250	4058	3026
106	257	2771	2781	257	2903	2786	12	258	3039	2703	259	3181	3004	27	260	4071	2998
107	266	2738	2749	266	2869	2752	13	267	3004	2667	268	3145	2966	28	269	4084	2974
108	275	2704	2718	276	2834	2719	14	277	2968	2633	277	3109	2928	29	278	4097	2946
109	284	2670	2686	285	2799	2686	15	286	2933	2597	287	3072	2891	30	287	4110	2918
110	293	2636	2654	294	2765	2652	16	295	2897	2561	296	3036	2854	31	296	4123	2894
111	302	2602	2622	303	2730	2618	17	304	2862	2526	304	3000	2815	1	305	4136	2866
112	311	2568	2590	312	2695	2584	18	313	2826	2490	314	2964	2778	2	314	4149	2838
113	320	2534	2558	320	2661	2549	19	321	2791	2453	322	2928	2739	3	323	4162	2810
114	329	2500	2526	330	2626	2516	20	330	2755	2418	331	2891	2701	4	332	4175	2782
Tamil, Aadi; Malayalam, Karkatagam; Bengali, Shrawana.																	
115	337	2466	2493	338	2591	2482	21	339	2720	2382	340	2855	2664	5	341	4188	2754
116	345	2432	2460	346	2556	2447	22	347	2684	2345	348	2819	2625	6	349	4201	2726
117	353	2399	2437	354	2522	2412	23	355	2649	2308	357	2783	2587	7	358	4214	2698
118	362	2365	2396	363	2487	2378	24	364	2613	2273	365	2747	2548	8	366	4227	2674
119	370	2331	2363	371	2452	2343	25	372	2578	2236	373	2710	2509	9	374	4240	2646
120	378	2297	2330	379	2418	2309	26	380	2542	2199	381	2674	2471	10	382	4253	2618
121	384	2263	2305	386	2383	2283	27	389	2507	2175	402	2638	2445	11	390	4266	2594
122	402	2228	2272	405	2348	2249	28	407	2472	2137	410	2600	2406	12	413	4279	2566
123	409	2187	2238	413	2305	2214	29	415	2427	2100	418	2553	2367	13	421	4292	2538
124	417	2146	2205	421	2262	2179	30	423	2383	2064	426	2506	2328	14	429	4305	2510
125	424	2105	2171	428	2220	2144	31	430	2338	2026	433	2460	2289	15	436	4318	2482



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XIII.

Sunrise from 28° to 32° N. Latitude.

Day of Solar year.	Lat. 28° +460" Long.			Lat. 29° +352" Long.			Lat. 30° +152" Long.			Lat. 31° +332" Long.			Lat. 32° -348" Long.				
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Mathura.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Delhi.	Days of solar months.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Patiala.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Simla.	Eng. date.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Lahore.
	A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920		
187	+576	-183	+237	+580	-142	+ 80	1	+585	-151	-168	+590	-160	- 36	16	+595	-168	-763
188	578	166	201	577	177	42	2	582	188	208	587	199	78	17	592	210	808
189	570	200	164	574	213	3	3	579	226	249	584	239	121	18	589	253	854
190	567	233	128	571	248	- 35	4	576	264	290	581	279	164	19	586	295	899
191	564	266	92	568	284	74	5	573	302	331	578	319	207	20	583	337	944
192	561	300	55	565	319	112	6	570	339	371	575	359	250	21	580	379	989
193	557	333	17	561	355	151	7	566	377	414	571	399	293	22	576	421	1036
194	554	366	- 27	558	390	197	8	563	415	462	568	439	343	23	573	463	1088
195	550	400	72	554	426	244	9	559	452	510	564	479	394	24	569	505	1141
196	546	433	117	550	461	290	10	555	490	559	560	519	444	25	565	547	1198
197	542	466	162	546	497	337	11	551	528	608	556	559	495	26	561	589	1246
198	538	499	206	542	532	384	12	547	565	656	552	598	546	27	557	631	1299
199	534	533	251	538	568	431	13	543	603	705	548	638	597	28	553	674	1352
200	529	566	297	533	603	499	14	538	641	755	543	678	649	29	548	716	1406
201	524	599	343	528	639	520	15	533	679	805	538	718	700	30	543	758	1459
202	520	633	388	524	674	573	16	529	716	858	534	758	751	31	539	800	1512
203	515	666	434	519	710	621	17	524	754	908	529	798	808	1	534	842	1566
204	509	699	481	513	745	670	18	518	792	954	523	838	856	2	528	884	1621
205	504	733	527	508	781	718	19	513	829	1003	518	878	908	3	523	926	1675
206	499	766	573	503	816	765	20	508	867	1053	513	918	959	4	518	968	1728
207	495	799	618	499	852	812	21	504	905	1102	509	958	1010	5	514	1010	1781
208	489	832	664	493	887	861	22	498	942	1152	503	997	1063	6	508	1052	1836
209	483	866	711	487	923	910	23	492	980	1203	497	1037	1116	7	502	1095	1891
210	477	899	758	481	958	959	24	486	1018	1254	491	1077	1169	8	496	1137	1946
211	471	932	805	477	994	1005	25	480	1056	1305	485	1117	1221	9	490	1179	1960
212	468	966	849	473	1029	1052	26	474	1093	1355	479	1157	1275	10	483	1221	2056
213	465	1000	893	469	1064	1099	27	473	1132	1401	478	1196	1322	11	481	1264	2107
214	462	1041	937	465	1107	1136	28	467	1177	1452	471	1243	1376	12	474	1313	2163
215	455	1082	985	458	1150	1196	29	460	1221	1503	464	1290	1430	13	467	1362	2219
216	448	1123	1033	451	1192	1245	30	453	1266	1555	457	1336	1483	14	460	1410	2274
217	441	1164	1081	444	1235	1295	1	446	1311	1607	450	1383	1537	15	453	1459	2330
218	434	1204	1128	437	1275	1345	2	439	1355	1658	443	1430	1591	16	446	1508	2386
219	426	1245	1177	429	1321	1396	3	431	1400	1711	435	1477	1646	17	438	1557	2443
220	419	1286	1225	422	1364	1446	4	424	1445	1763	428	1524	1700	18	431	1606	2499
221	411	1327	1315	414	1406	1496	5	416	1490	1816	420	1570	1758	19	423	1654	2555
222	403	1368	1365	406	1449	1567	6	408	1534	1868	412	1617	1809	20	415	1703	2612
223	395	1409	1373	398	1492	1598	7	400	1579	1920	404	1664	1864	21	407	1752	2669
224	387	1450	1407	390	1535	1641	8	392	1624	1963	396	1711	1908	22	399	1801	2714
225	379	1491	1457	382	1578	1683	9	384	1668	2007	388	1758	1952	23	391	1850	2759
226	371	1532	1499	374	1620	1726	10	376	1713	2050	380	1804	1997	24	383	1898	2804
227	362	1573	1462	365	1663	1770	11	367	1758	2095	371	1851	2042	25	374	1947	2850
228	354	1613	1533	357	1706	1812	12	359	1802	2138	363	1898	2087	26	366	1996	2895
229	345	1654	1626	348	1749	1856	13	350	1847	2183	354	1945	2131	27	357	2045	2941
230	336	1695	1669	339	1792	1900	14	341	1892	2227	345	1992	2176	28	348	2094	2987
231	327	1736	1712	330	1834	1944	15	332	1937	2272	336	2038	2222	29	339	2142	3033
232	318	1777	1785	321	1877	1987	16	323	1981	2316	327	2085	2267	30	330	2191	3079
233	309	1818	1798	312	1920	2031	17	314	2026	2361	318	2132	2312	1	321	2240	3125
234	299	1859	1842	302	1963	2076	18	304	2071	2406	308	2179	2358	2	311	2289	3172
235	290	1900	1885	293	2006	2119	19	295	2115	2451	299	2226	2403	3	302	2338	3218
236	281	1941	1928	284	2048	2159	20	286	2160	2495	290	2272	2449	4	293	2386	3264
237	272	1982	1971	275	2091	2207	21	277	2205	2540	281	2319	2494	5	284	2435	3310
238	262	2022	2014	265	2134	2251	22	267	2249	2585	271	2366	2540	6	274	2484	3357
239	252	2063	2058	255	2177	2296	23	257	2294	2631	261	2413	2586	7	264	2533	3404
240	243	2104	2101	246	2220	2340	24	248	2339	2675	252	2460	2631	8	255	2582	3456
241	233	2145	2135	236	2263	2385	25	238	2384	2721	242	2506	2678	9	244	2630	3498
242	223	2186	2189	226	2305	2429	26	228	2428	2766	232	2553	2724	10	234	2679	3545
243	207	2228	2239	208	2348	2482	27	208	2472	2822	209	2600	2783	11	210	2728	3606
244	198	2262	2282	199	2388	2526	28	199	2507	2866	200	2636	2828	12	201	2765	3652
245	188	2296	2326	189	2417	2570	29	189	2543	2912	190	2672	2867	13	191	2802	3699
246	178	2330	2370	179	2452	2615	30	179	2578	2957	180	2709	2921	14	181	2839	3746

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.											
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
	11	39	44			89	27	16	8	58	0
Sum - 18 gh. 15 p.											
	-	18	15			(☉'s Yoga Eqn.) +			1	25	
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XIII.

Sunrise from 28° to 32° N. Latitude.

Day of Solar year.	Lat. 28° +460'' Long.			Lat. 29° +352'' Long.			Lat. 30° +152'' Long.			Lat. 31° +332'' Long.			Lat. 32° -348'' Long.				
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Mathura.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Delhi.	Days of solar months.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Patiala.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Simla.	Eng. date.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Lahore.
	A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920		
306	-285	-3230	-2237	-283	-3343	-2420	1	-280	-3463	-2701	-276	-3587	-2599	12	-274	-3711	-3363
307	287	3189	2198	285	3300	2379	2	283	3418	2659	279	3540	2556	13	276	3662	3316
308	290	3148	2160	288	3257	2339	3	285	3374	2617	281	3494	2511	14	278	3614	3270
309	292	3107	2121	290	3214	2298	4	287	3329	2574	283	3447	2466	15	281	3565	3224
310	295	3067	2084	293	3172	2264	5	290	3285	2533	286	3400	2422	16	283	3517	3178
311	297	3026	2045	295	3129	2218	6	292	3240	2490	288	3354	2378	17	285	3468	3131
312	300	2985	2007	298	3086	2168	7	294	3196	2448	290	3307	2333	18	287	3420	3085
313	302	2944	1968	300	3044	2138	8	297	3151	2406	293	3261	2290	19	289	3371	3038
314	305	2903	1930	303	3001	2098	9	299	3107	2364	295	3214	2245	20	292	3323	2993
315	307	2862	1891	305	2958	2057	10	301	3062	2321	297	3167	2201	21	294	3274	2946
316	310	2821	1826	308	2916	1990	11	304	3018	2252	300	3121	2129	22	296	3226	2871
317	312	2780	1760	310	2873	1922	12	306	2973	2181	302	3074	2057	23	298	3177	2796
318	315	2739	1695	313	2830	1855	13	308	2929	2111	304	3028	1984	24	300	3129	2722
319	317	2698	1629	315	2787	1787	14	311	2884	2041	307	2981	1913	25	303	3080	2648
320	320	2658	1567	318	2745	1719	15	313	2840	1971	309	2934	1840	26	305	3032	2573
321	322	2617	1497	320	2702	1651	16	315	2795	1901	311	2888	1768	27	307	2983	2498
322	325	2576	1432	323	2659	1584	17	318	2751	1831	314	2841	1696	28	309	2935	2423
323	327	2535	1366	325	2617	1515	18	320	2706	1761	316	2795	1624	1	311	2886	2349
324	330	2494	1301	328	2574	1449	19	322	2662	1690	318	2748	1551	2	314	2838	2275
325	332	2453	1235	330	2531	1381	20	325	2617	1621	321	2701	1480	3	316	2789	2200
326	335	2412	1170	332	2489	1313	21	327	2573	1551	323	2655	1407	4	318	2741	2125
327	337	2371	1104	334	2446	1245	22	329	2528	1480	325	2608	1335	5	320	2692	2050
328	340	2330	1039	336	2403	1177	23	331	2484	1410	327	2562	1264	6	322	2644	1976
329	342	2289	973	338	2360	1109	24	333	2439	1339	329	2515	1190	7	324	2595	1901
330	345	2249	908	340	2318	1040	25	335	2395	1269	331	2468	1117	8	326	2547	1826
331	347	2208	841	342	2275	972	26	337	2350	1199	333	2422	1045	9	328	2498	1851
332	349	2167	775	344	2232	904	27	339	2306	1128	335	2375	972	10	330	2450	1676
333	351	2126	709	346	2190	836	28	341	2261	1058	337	2329	900	11	332	2401	1602
334	353	2085	643	348	2147	768	29	343	2217	987	339	2282	827	12	334	2353	1527
335	355	2044	577	350	2104	700	1	345	2172	917	341	2236	755	13	336	2304	1452
336	355	1976	509	350	2034	630	2	345	2100	845	341	2161	680	14	336	2227	1375
337	356	1908	442	351	1964	561	3	346	2027	773	342	2087	607	15	337	2150	1299
338	356	1840	374	351	1894	491	4	346	1955	701	342	2012	532	16	337	2074	1223
339	357	1772	307	352	1824	422	5	347	1882	629	343	1938	459	17	338	1997	1147
340	357	1704	239	352	1753	351	6	347	1810	557	343	1863	384	18	338	1920	1070
341	358	1635	171	353	1683	282	7	348	1738	486	344	1789	311	19	339	1843	994
342	358	1567	103	353	1613	212	8	348	1665	413	344	1714	236	20	339	1766	917
343	359	1499	36	354	1543	143	9	349	1593	342	345	1640	153	21	340	1690	842
344	359	1431	+ 32	354	1473	73	10	349	1520	269	345	1565	88	22	340	1613	765
345	360	1363	100	355	1403	3	11	350	1448	198	346	1491	14	23	341	1536	689
346	360	1295	168	355	1333	+ 66	12	350	1376	126	346	1416	+ 61	24	341	1459	612
347	361	1227	235	356	1263	135	13	351	1303	54	347	1342	134	25	342	1382	536
348	361	1159	303	356	1193	205	14	351	1231	+ 18	347	1267	209	26	342	1306	460
349	362	1091	370	357	1123	274	15	352	1158	90	348	1193	282	27	343	1229	384
350	362	1023	439	357	1052	346	16	352	1086	162	348	1118	357	28	343	1152	307
351	363	954	506	357	982	415	17	352	1014	234	349	1044	430	29	344	1175	231
352	363	886	574	358	912	485	18	353	941	306	349	969	505	30	344	998	154
353	364	818	641	358	842	554	19	353	869	379	349	895	579	31	344	922	78
354	364	750	709	358	772	626	20	353	796	451	350	820	653	1	345	845	2
355	365	682	776	359	702	694	21	354	724	522	350	746	727	2	345	768	+ 75
356	365	614	844	359	632	765	22	354	652	594	350	671	802	3	345	691	152
357	366	546	911	360	562	833	23	354	579	667	351	597	875	4	346	614	228
358	366	478	979	360	492	903	24	355	507	738	351	522	950	5	346	538	304
359	367	410	1046	360	422	973	25	355	434	821	351	448	1024	6	346	461	381
360	367	342	1115	361	351	1042	26	355	362	876	352	373	1098	7	347	384	457
361	368	273	1182	361	281	1113	27	356	290	954	352	299	1172	8	347	307	534
362	368	205	1250	361	211	1183	28	356	317	1027	352	224	1247	9	347	230	611
363	368	137	1318	362	141	1252	29	356	145	1099	353	150	1320	10	348	154	686
364	367	69	1387	362	71	1322	30	357	72	1171	353	75	1395	11	348	77	763
365	367	0	1455	362	0	1392	31	357	0	1243	353	0	1469	12	348	0	840

TABLE XIII.

Sunrise from 33° to 35° N. Latitude; also for BOMBAY and CALCUTTA.

Day of Solar year.	Lat. 33° —480" Long.			Lat. 34° —228" Long.			Lat. 35° —1592" Long.			Lat. 19°—692" Long.			Lat. 22°50' +3020" Long.				
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds.		
			A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920		
1	-343	+ 79	+ 840	-338	+ 82	+1148	1	-333	+ 84	-161	-405	+ 50	- 47	13	-391	+ 57	+3891
2	341	158	921	336	163	1231	2	331	168	75	403	100	+ 5	14	389	113	3877
3	340	238	1002	335	245	1314	3	330	252	+ 10	401	150	57	15	387	170	3936
4	339	317	1082	334	326	1396	4	329	336	95	400	200	108	16	386	227	3993
5	337	396	1163	332	408	1480	5	328	420	180	398	250	160	17	384	283	4052
6	336	475	1243	331	490	1563	6	327	504	265	396	300	212	18	382	340	4111
7	334	554	1324	330	571	1645	7	325	588	351	394	350	264	19	380	396	4170
8	332	634	1406	328	653	1729	8	323	672	437	392	400	316	20	378	453	4229
9	330	713	1487	326	734	1812	9	321	756	523	390	450	368	21	375	510	4289
10	328	792	1568	324	816	1896	10	319	840	609	387	500	421	22	373	567	4347
11	326	871	1620	321	898	1951	11	317	924	665	385	550	450	23	371	623	4381
12	324	950	1673	319	979	2005	12	315	1008	721	382	600	479	24	369	679	4415
13	322	1030	1725	317	1061	2059	13	313	1092	778	380	650	508	25	366	736	4450
14	319	1109	1778	315	1142	2112	14	310	1176	835	377	700	538	26	363	792	4485
15	316	1188	1832	312	1224	2167	15	308	1260	891	374	750	568	27	360	850	4520
16	314	1267	1884	310	1306	2221	16	306	1344	947	371	800	597	28	357	906	4555
17	312	1346	1936	308	1387	2275	17	304	1428	1003	367	850	628	29	354	962	4590
18	310	1426	1989	306	1469	2329	18	302	1512	1059	364	900	658	30	352	1019	4624
19	308	1505	2041	304	1550	2383	19	300	1596	1116	361	950	687	1	348	1072	4660
20	306	1584	2093	302	1632	2437	20	298	1680	1172	357	1000	718	2	344	1133	4696
21	304	1663	2145	300	1714	2491	21	296	1764	1228	354	1050	748	3	341	1190	4731
22	302	1742	2198	298	1795	2544	22	294	1848	1284	350	1100	778	4	338	1246	4766
23	300	1822	2250	296	1877	2598	23	292	1932	1340	346	1150	809	5	335	1303	4801
24	298	1901	2302	294	1958	2652	24	290	2016	1397	342	1200	840	6	333	1359	4835
25	296	1980	2355	292	2040	2706	25	288	2100	1453	338	1250	870	7	330	1416	4870
26	294	2059	2407	290	2122	2760	26	286	2184	1509	334	1300	901	8	327	1473	4904
27	292	2138	2459	288	2203	2814	27	284	2268	1565	330	1350	932	9	324	1530	4940
28	290	2218	2512	286	2285	2868	28	282	2352	1621	326	1400	963	10	321	1587	4975
29	288	2297	2564	284	2366	2921	29	280	2436	1678	322	1450	993	11	318	1644	5010
30	286	2376	2616	282	2448	2975	30	278	2520	1734	354	1500	988	12	334	1700	5026
31	284	2426	2669	280	2500	3029	1	276	2574	1790	349	1527	1020	13	331	1732	5061
32	282	2477	2721	278	2552	3083	2	274	2628	1846	344	1553	1051	14	327	1764	5097
33	280	2527	2773	276	2604	3137	3	272	2682	1902	339	1580	1083	15	324	1796	5132
34	278	2577	2826	274	2655	3201	4	270	2737	1959	323	1607	1116	16	320	1828	5168
35	276	2628	2878	272	2707	3245	5	268	2791	2015	328	1634	1147	17	316	1860	5204
36	274	2678	2930	270	2759	3299	6	266	2845	2071	322	1660	1180	18	313	1892	5239
37	272	2728	2983	268	2811	3352	7	264	2899	2127	316	1687	1213	19	308	1924	5276
38	270	2779	3035	266	2863	3406	8	262	2953	2183	311	1714	1245	20	303	1956	5313
39	269	2829	3086	264	2915	3460	9	260	3008	2240	305	1740	1277	21	297	1988	5351
40	264	2879	3142	261	2967	3515	10	258	3062	2296	299	1767	1310	22	291	2020	5389
41	260	2929	3196	258	3019	3570	11	256	3116	2352	293	1794	1343	23	285	2052	5427
42	254	2980	3205	252	3070	3580	12	250	3170	2363	286	1820	1343	24	279	2084	5428
43	247	3030	3215	245	3122	3591	13	243	3224	2375	280	1847	1342	25	273	2116	5429
44	242	3080	3224	240	3174	3600	14	237	3279	2385	274	1874	1340	26	267	2148	5430
45	236	3131	3233	234	3226	3610	15	231	3333	2396	267	1900	1341	27	260	2180	5432
46	231	3181	3241	228	3278	3620	16	226	3387	2406	261	1927	1339	28	254	2211	5434
47	224	3231	3251	222	3330	3630	17	219	3441	2418	254	1954	1339	29	247	2244	5436
48	218	3282	3260	216	3382	3640	18	213	3495	2429	247	1981	1339	30	241	2276	5437
49	212	3332	3270	210	3433	3650	19	208	3550	2438	241	2007	1338	31	235	2308	5438
50	207	3382	3278	205	3485	3659	20	203	3604	2448	234	2034	1338	1	228	2340	5440
51	201	3433	3287	199	3537	3669	21	197	3658	2459	227	2061	1338	2	221	2372	5443
52	195	3483	3296	193	3589	3679	22	191	3712	2470	220	2087	1338	3	214	2404	5445
53	188	3533	3306	186	3641	3690	23	184	3766	2482	213	2114	1338	4	207	2436	5447
54	182	3584	3316	180	3693	3700	24	178	3821	2492	206	2141	1338	5	200	2468	5449
55	176	3634	3325	177	3745	3707	25	176	3875	2499	199	2167	1336	6	193	2500	5451
56	172	3684	3332	174	3797	3714	26	172	3929	2508	192	2194	1337	7	186	2532	5454
57	169	3735	3338	171	3848	3721	27	168	3983	2517	184	2221	1338	8	179	2564	5456
58	166	3785	3344	168	3900	3728	28	164	4037	2526	177	2248	1338	9	174	2596	5458
59	163	3835	3351	165	3952	3735	29	160	4092	2534	169	2274	1339	10	168	2628	5457
60	160	3886	3357	162	4004	3742	30	156	4146	2543	162	2301	1339	11	162	2660	5458
61	157	3936	3363	159	4056	3749	31	152	4200	2552	179	2328	1315	12	171	2692	5445
62	154	3939	3369	156	4060	3756	32	148	4205	2561	171	2321	1316	13	164	2687	5447

TABLE XIII.

Sunrise from 33° to 35° N. Latitude; also for BOMBAY and CALCUTTA.

Day of Solar year.	Lat. 33°—480''			Lat. 34°—228''			Lat. 35°—1592''			Lat. 19°—692''			Lat. 22.5°+3020''					
	Long.			Long.			Long.			Long.			Long.					
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Jehlum.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Srinagar.	Days of solar months.	Eqn. of time. in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Kabul.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Bombay.	Eng. date.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds. Calcutta.	
			A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920	
63	-151	+3942	+3375	-153	+4064	+3763	1	-144	+4210	+2570	-162	+2384	+1318	14	-159	+2682	+5447	
64	148	3946	3382	150	4068	3778	2	140	4214	2578	153	2306	1320	15	151	2677	5450	
65	138	3949	3395	138	4072	3786	3	137	4219	2589	144	2300	1322	16	143	2672	5453	
66	130	3952	3406	130	4076	3798	4	130	4224	2598	135	2292	1323	17	134	2668	5457	
67	121	3955	3418	120	4080	3812	5	120	4229	2613	126	2285	1325	18	125	2663	5462	
68	112	3958	3430	112	4084	3824	6	112	4234	2626	117	2278	1327	19	116	2658	5466	
69	103	3962	3443	103	4088	3837	7	103	4238	2639	108	2271	1329	20	107	2653	5470	
70	95	3965	3454	94	4092	3850	8	94	4243	2653	99	2264	1331	21	96	2648	5476	
71	86	3968	3466	85	4096	3863	9	85	4248	2667	89	2257	1335	22	88	2644	5480	
72	77	3971	3437	76	4100	3833	10	76	4253	2636	80	2250	1316	23	79	2639	5458	
73	68	3974	3408	68	4104	3803	11	68	4258	2605	71	2243	1297	24	70	2634	5437	
74	58	3978	3380	58	4108	3774	12	58	4262	2575	61	2236	1285	25	61	2629	5416	
75	51	3981	3343	50	4112	3743	13	50	4267	2544	53	2227	1259	26	53	2624	5394	
76	41	3984	3321	41	4116	3713	14	41	4272	2514	42	2221	1242	27	42	2620	5375	
77	32	3987	3292	32	4120	3684	15	32	4277	2483	33	2214	1223	28	33	2615	5353	
78	23	3990	3263	23	4124	3654	16	23	4282	2453	24	2207	1204	29	24	2610	5332	
79	14	3994	3234	14	4128	3624	17	14	4286	2422	15	2200	1185	30	15	2605	5312	
80	5	3997	3206	5	4132	3595	18	5	4291	2392	5	2193	1167	1	5	2600	5291	
81	+	4	4000	+	4	4136	19	+	4	4296	+	4	2186	1148	2	+	4	2596
82	13	4003	3148	13	4140	3535	20	13	4301	2331	13	2179	1129	3	13	2591	5248	
83	22	4006	3119	22	4144	3505	21	22	4306	2300	23	2172	1111	4	23	2586	5288	
84	30	4010	3089	30	4148	3475	22	30	4310	2266	32	2165	1092	5	32	2581	5207	
85	40	4013	3061	40	4152	3446	23	40	4315	2236	42	2158	1074	6	42	2576	5187	
86	49	4016	3032	48	4156	3415	24	48	4320	2203	51	2150	1055	7	51	2571	5166	
87	57	4019	3002	57	4160	3386	25	57	4325	2174	60	2143	1036	8	60	2567	5144	
88	67	4022	2974	66	4164	3356	26	66	4330	2145	70	2136	1026	9	69	2562	5123	
89	76	4026	2945	75	4168	3326	27	75	4334	2116	79	2129	1007	10	78	2557	5102	
90	84	4029	2915	84	4172	3296	28	84	4339	2086	88	2122	980	11	87	2552	5081	
91	110	4032	2903	111	4176	3285	29	111	4344	2073	106	2116	970	12	107	2548	5071	
92	121	3994	2876	121	4137	3256	30	121	4304	2044	116	2088	952	13	117	2517	5050	
93	131	3956	2848	132	4099	3228	31	132	4265	2015	126	2060	934	14	127	2487	5030	
94	141	3918	2820	141	4060	3199	32	142	4225	1986	136	2038	916	15	137	2457	5010	
95	151	3880	2792	151	4021	3170	1	152	4186	1956	146	2004	898	16	147	2427	4990	
96	162	3842	2766	162	3982	3142	2	163	4147	1928	156	1976	880	17	157	2397	4970	
97	172	3804	2738	172	3944	3113	3	173	4107	1898	166	1948	862	18	167	2366	4949	
98	182	3766	2710	182	3905	3085	4	183	4068	1869	175	1920	843	19	177	2336	4929	
99	192	3728	2662	193	3866	3057	5	193	4028	1839	185	1892	825	20	187	2307	4909	
100	202	3691	2654	202	3828	3027	6	203	3989	1810	194	1864	806	21	196	2276	4888	
101	211	3653	2625	212	3789	2999	7	212	3949	1779	204	1836	788	22	205	2246	4867	
102	221	3615	2597	222	3750	2970	8	222	3910	1750	263	1808	769	23	215	2215	4847	
103	231	3577	2557	232	3711	2928	9	232	3870	1706	223	1780	753	24	224	2185	4824	
104	242	3539	2517	243	3673	2887	10	244	3831	1663	232	1752	735	25	235	2155	4803	
105	251	3501	2476	252	3634	2844	11	253	3791	1618	242	1724	719	26	244	2125	4780	
106	261	3463	2435	262	3595	2802	12	263	3752	1573	251	1696	702	27	253	2095	4758	
107	270	3425	2394	271	3557	2759	13	272	3712	1528	260	1668	684	28	261	2064	4735	
108	278	3387	2352	279	3518	2715	14	280	3673	1482	269	1640	667	29	271	2034	4714	
109	288	3349	2311	288	3479	2672	15	289	3633	1436	278	1620	650	30	280	2004	4692	
110	297	3311	2270	297	3440	2629	16	298	3594	1391	287	1584	633	31	290	1974	4671	
111	305	3273	2227	305	3402	2585	17	306	3554	1344	295	1556	614	1	297	1944	4647	
112	315	3235	2187	316	3363	2544	18	316	3515	1300	304	1528	587	2	306	1913	4625	
113	324	3197	2146	325	3324	2501	19	326	3475	1257	312	1500	579	3	315	1883	4603	
114	333	3159	2104	334	3286	2468	20	335	3436	1210	321	1472	561	4	324	1853	4581	
115	342	3121	2163	343	3247	2415	21	344	3396	1165	329	1444	543	5	332	1823	4558	
116	350	3084	2020	351	3208	2371	22	352	3357	1118	338	1416	526	6	340	1793	4535	
117	359	3046	1979	360	3169	2328	23	361	3317	1073	346	1388	507	7	348	1762	4512	
118	367	3008	1937	368	3131	2284	24	369	3278	1027	354	1360	489	8	357	1732	4490	
119	375	2970	1894	376	3092	2240	25	377	3238	980	362	1332	471	9	364	1702	4466	
120	383	2932	1852	384	3053	2196	26	385	3199	934	369	1304	452	10	372	1672	4443	
121	408	2894	1898	411	3015	2171	27	414	3159	908	373	1276	429	11	381	1642	4421	
122	416	2856	1784	419	2976	2127	28	422	3120	862	381	1248	411	12	388	1612	4397	
123	424	2806	1742	427	2924	2083	29	430	3066	816	388	1222	392	13	396	1580	4374	
124	432	2755	1699	435	2872	2039	30	438	3011	769	396	1195	373	14	404	1548	4351	
125	439	2705	1656	442	2820	1994	31	445	2957	722	403	1169	354	15	411	1516	4327	

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XIII.

Sunrise from 33° to 35° N. Latitude; also for BOMBAY and CALCUTTA.

Day of Solar year.	Lat. 33°—480'' Long.			Lat. 34°—228'' Long.			Days of solar months.	Lat. 35°—1592'' Long.			Lat. 19°—692'' Long.			Lat. 22.5°+3020'' Long.			
	A.D. 1840— 1920			A.D. 1840— 1920				A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920			
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corn. in seconds. Jehum.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corn. in seconds. Srinagar.		Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corn. in seconds. Kabul.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corn. in seconds. Bombay.	Eng. date.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corn. in seconds. Calcutta.
187	+600	-179	-955	+605	-189	-756	1	+610	-198	-2173	+538	-61	-511	16	+552	-89	+3035
188	597	224	1003	602	236	806	2	607	248	2225	536	76	538	17	551	112	3011
189	604	269	1041	609	283	846	3	614	298	2268	533	92	557	18	548	134	2986
190	601	314	1091	606	330	896	4	611	347	2310	530	107	575	19	545	156	2961
191	588	358	1146	593	378	953	5	598	397	2383	527	122	593	20	542	179	2935
192	585	403	1194	590	425	1007	6	595	446	2435	524	138	612	21	538	201	2919
193	581	448	1243	586	472	1058	7	591	496	2489	521	153	631	22	535	224	2888
194	578	493	1296	583	519	1113	8	588	546	2546	518	168	660	23	532	246	2848
195	574	538	1351	579	566	1169	9	584	595	2605	515	184	690	24	529	268	2814
196	570	582	1405	575	614	1225	10	580	645	2663	511	199	720	25	525	291	2778
197	566	627	1460	571	661	1281	11	576	694	2722	507	214	750	26	521	313	2741
198	562	672	1514	567	708	1337	12	572	744	2780	503	229	780	27	517	336	2696
199	558	717	1568	563	755	1393	13	568	794	2838	499	245	811	28	513	358	2670
200	553	762	1624	558	802	1450	14	563	843	2898	494	260	842	29	508	380	2633
201	548	806	1679	553	850	1507	15	558	893	2957	490	275	872	30	503	403	2596
202	544	851	1734	549	897	1563	16	553	942	3017	486	291	909	31	499	425	2560
203	539	896	1789	544	944	1620	17	549	992	3075	481	306	934	1	494	448	2523
204	533	941	1845	538	991	1678	18	543	1042	3135	476	321	965	2	489	455	2486
205	528	986	1901	533	1038	1735	19	538	1091	3195	471	337	997	3	484	492	2449
206	523	1030	1956	528	1086	1792	20	533	1141	3254	466	352	1028	4	479	515	2412
207	519	1075	2011	524	1133	1848	21	529	1191	3313	462	367	1057	5	475	537	2376
208	513	1120	2067	518	1180	1906	22	523	1240	3373	457	382	1089	6	469	560	2338
209	507	1165	2123	512	1227	1964	23	517	1290	3433	451	398	1122	7	463	582	2300
210	501	1210	2180	506	1274	2022	24	511	1339	3494	446	413	1153	8	458	604	2263
211	495	1254	2236	500	1322	2080	25	505	1389	3554	440	428	1185	9	452	627	2225
212	488	1299	2294	493	1369	2139	26	498	1438	3616	434	444	1216	10	450	649	2191
213	484	1344	2348	487	1416	2197	27	490	1488	3678	443	460	1235	11	448	672	2157
214	477	1394	2405	480	1468	2256	28	483	1542	3739	437	486	1267	12	445	704	2122
215	470	1445	2463	473	1520	2315	29	476	1597	3801	430	513	1301	13	440	735	2186
216	453	1495	2520	466	1572	2374	30	469	1651	3862	423	539	1334	14	433	767	2046
217	456	1546	2578	459	1624	2433	1	462	1706	3924	416	565	1367	15	426	800	2007
218	449	1596	2635	452	1676	2492	2	455	1760	3975	409	591	1400	16	419	831	1969
219	441	1646	2693	444	1728	2552	3	447	1814	4047	402	618	1434	17	412	863	1930
220	434	1697	2751	437	1780	2611	4	440	1869	4109	395	644	1467	18	405	895	1891
221	426	1747	2809	429	1832	2671	5	432	1923	4171	388	670	1500	19	397	927	1850
222	418	1798	2868	421	1884	2731	6	424	1978	4234	381	697	1534	20	389	959	1811
223	410	1848	2926	413	1936	2791	7	416	2032	4296	374	723	1566	21	382	991	1778
224	402	1898	2972	405	1988	2838	8	408	2086	4343	366	749	1602	22	374	1023	1734
225	394	1949	3018	397	2040	2884	9	400	2141	4391	358	776	1638	23	366	1055	1695
226	386	1999	3064	389	2092	2931	10	392	2195	4438	350	802	1674	24	358	1087	1657
227	377	2050	3111	380	2144	2979	11	383	2250	4487	342	828	1710	25	350	1119	1629
228	369	2100	3157	372	2196	3025	12	375	2304	4534	334	854	1746	26	341	1151	1599
229	360	2150	3204	363	2248	3073	13	366	2358	4583	326	881	1782	27	333	1183	1560
230	351	2201	3250	354	2300	3121	14	357	2413	4631	317	907	1819	28	324	1215	1521
231	342	2251	3297	345	2352	3169	15	348	2467	4680	309	933	1855	29	316	1247	1483
232	333	2302	3344	336	2404	3216	16	339	2522	4728	301	960	1891	30	307	1279	1444
233	324	2352	3391	327	2456	3264	17	330	2576	4777	293	986	1927	1	299	1311	1405
234	314	2402	3439	317	2508	3313	18	320	2630	4826	284	1012	1964	2	290	1343	1366
235	305	2453	3486	308	2560	3360	19	311	2685	4875	275	1039	2001	3	281	1374	1327
236	296	2508	3533	299	2612	3408	20	302	2739	4923	266	1065	2038	4	272	1407	1288
237	287	2554	3580	290	2664	3456	21	293	2794	4972	257	1091	2075	5	263	1439	1249
238	277	2604	3628	280	2716	3505	22	283	2848	5021	248	1117	2112	6	254	1470	1209
239	267	2654	3676	270	2768	3553	23	273	2902	5071	239	1144	2149	7	245	1502	1170
240	258	2705	3723	261	2820	3601	24	264	2957	5119	230	1170	2186	8	236	1534	1131
241	246	2755	3773	248	2872	3653	25	251	3011	5172	220	1196	2224	9	226	1567	1091
242	236	2806	3821	238	2924	3701	26	241	3066	5221	211	1223	2261	10	216	1598	1051
243	211	2856	3884	212	2976	3766	27	213	3120	5287	203	1248	2297	11	205	1630	1009
244	202	2894	3931	203	3015	3814	28	204	3159	5337	194	1276	2334	12	196	1660	970
245	192	2932	3979	193	3053	3863	29	194	3199	5387	184	1304	2372	13	186	1691	930
246	182	2970	4026	183	3092	3911	30	184	3238	5436	174	1332	2410	14	176	1721	890



TABLE XIII.

Sunrise from 33° to 35° N. Latitude; also for BOMBAY and CALCUTTA.

Day of Solar year.	Lat. 33° —480' Long.			Lat. 34° —228' Long.			Lat. 35° —1592' Long.			Lat. 19° —692' Long.			Lat. 22.5° +3020' Long.					
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Jehlum.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Srinagar.	Days of solar months.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Kabul.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Bombay.	Eng. date.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corr. in seconds. Calcutta.	
	A.D. 1840—1920			A.D. 1840—1920				A.D. 1840—1920			A.D. 1840—1920				A.D. 1840—1920			
247	+172	—3008	—4074	+173	—3131	—3960	1	+174	—3278	—5486	+164	—1360	—2448	15	+166	—1741	+850	
248	162	3046	4122	163	3169	4009	2	164	3317	5535	154	1388	2486	16	156	1762	809	
249	152	3084	4170	153	3208	4057	3	154	3357	5585	144	1416	2524	17	146	1793	769	
250	142	3121	4218	143	3247	4106	4	144	3396	5634	134	1444	2562	18	135	1823	728	
251	132	3159	4266	133	3286	4155	5	134	3436	5683	124	1472	2600	19	125	1853	688	
252	122	3197	4314	123	3324	4204	6	124	3475	5733	114	1500	2638	20	115	1883	648	
253	112	3235	4362	113	3363	4252	7	114	3515	5782	104	1528	2676	21	105	1914	607	
254	102	3273	4410	103	3402	4301	8	104	3554	5832	94	1556	2714	22	95	1944	567	
255	92	3311	4417	93	3440	4307	9	94	3594	5887	84	1584	2751	23	85	1974	523	
256	82	3349	4424	83	3479	4313	10	84	3633	5842	74	1612	2784	24	75	2004	478	
257	72	3387	4430	73	3518	4319	11	74	3673	5848	64	1640	2765	25	65	2034	425	
258	62	3425	4437	63	3557	4325	12	64	3712	5853	54	1668	2782	26	55	2065	368	
259	51	3463	4445	52	3595	4332	13	53	3752	5859	44	1696	2799	27	44	2095	302	
260	41	3501	4452	42	3634	4338	14	43	3791	5864	34	1724	2817	28	34	2125	228	
261	31	3539	4459	32	3673	4344	15	33	3831	5869	24	1752	2834	29	24	2155	148	
262	21	3577	4465	22	3711	4350	16	23	3870	5875	14	1780	2851	30	14	2185	62	
263	11	3615	4472	12	3750	4356	17	13	3910	5880	2	1808	2868	31	2	2216	—	
264	—	3653	4499	—	3789	4384	18	—	3949	5909	—	10	1836	2891	1	—	2246	—
265	29	3691	4506	30	3828	4390	19	31	3989	5914	20	1864	2908	2	21	2276	—	
266	39	3728	4513	40	3866	4396	20	41	4028	5919	32	1892	2925	3	32	2306	—	
267	49	3766	4519	50	3905	4402	21	51	4068	5925	41	1920	2941	4	42	2336	—	
268	59	3804	4526	60	3944	4408	22	61	4107	5930	51	1948	2958	5	52	2367	—	
269	70	3842	4534	71	3982	4415	23	72	4147	5936	61	1976	2975	6	63	2397	—	
270	80	3880	4541	81	4021	4421	24	82	4186	5941	70	2004	2992	7	73	2427	—	
271	91	3918	4549	92	4060	4428	25	93	4225	5947	81	2032	3010	8	84	2457	—	
272	92	3956	4546	93	4099	4425	26	94	4265	5944	91	2060	3027	9	94	2487	—	
273	93	3994	4544	94	4137	4422	27	95	4304	5940	101	2088	3044	10	100	2518	—	
274	98	4032	4546	97	4176	4421	28	97	4344	5937	102	2116	3052	11	102	2548	—	
275	103	4029	4548	102	4172	4422	29	102	4339	5937	109	2123	3066	12	107	2552	—	
276	109	4026	4551	108	4168	4424	1	107	4334	5937	115	2130	3079	13	114	2557	—	
277	115	4022	4553	114	4164	4426	2	113	4330	5939	122	2137	3093	14	120	2561	—	
278	120	4019	4555	119	4160	4427	3	119	4325	5940	129	2144	3107	15	127	2567	—	
279	126	4016	4558	125	4156	4429	4	124	4320	5940	135	2151	3120	16	133	2572	—	
280	132	4013	4561	131	4152	4431	5	130	4315	5941	142	2159	3133	17	140	2576	—	
281	137	4010	4563	136	4148	4432	6	136	4310	5942	149	2166	3149	18	146	2581	—	
282	143	4006	4565	142	4144	4434	7	141	4306	5943	155	2173	3172	19	152	2586	—	
283	149	4003	4568	148	4140	4436	8	146	4301	5943	162	2180	3176	20	159	2591	—	
284	154	4000	4570	153	4136	4437	9	152	4296	5944	169	2187	3189	21	165	2595	—	
285	160	3997	4526	159	4132	4391	10	158	4291	5896	175	2194	3168	22	171	2600	—	
286	166	3994	4481	165	4128	4345	11	163	4286	5847	182	2201	3149	23	178	2605	—	
287	171	3990	4436	170	4124	4298	12	168	4282	5797	189	2208	3129	24	184	2610	—	
288	177	3987	4392	176	4120	4252	13	174	4277	5749	195	2215	3108	25	190	2615	—	
289	183	3984	4347	182	4116	4201	14	180	4272	5701	202	2222	3088	26	197	2620	—	
290	188	3981	4302	187	4112	4160	15	185	4267	5652	209	2230	3069	27	204	2624	—	
291	194	3978	4258	193	4108	4114	16	191	4262	5604	215	2237	3048	28	210	2629	—	
292	200	3974	4213	199	4104	4068	17	197	4258	5555	222	2244	3028	29	216	2634	—	
293	205	3971	4168	204	4100	4021	18	202	4253	5506	229	2251	3009	30	222	2639	—	
294	211	3968	4124	210	4096	3975	19	207	4248	5457	235	2258	2988	31	229	2644	—	
295	216	3965	4078	216	4092	3929	20	213	4242	5409	242	2265	2968	1	236	2648	—	
296	222	3962	4034	221	4088	3882	21	219	4238	5361	249	2272	2949	2	242	2653	—	
297	228	3958	3990	227	4084	3837	22	224	4234	5311	255	2279	2928	3	248	2657	—	
298	233	3955	3944	233	4080	3791	23	229	4229	5262	262	2286	2908	4	255	2662	—	
299	239	3952	3900	238	4076	3744	24	235	4224	5214	269	2295	2888	5	261	2666	—	
300	245	3949	3856	244	4072	3698	25	241	4219	5166	275	2301	2868	6	268	2670	—	
301	250	3946	3810	249	4068	3651	26	246	4214	5111	282	2308	2848	7	274	2675	—	
302	256	3942	3766	254	4064	3604	27	251	4210	5067	289	2315	2828	8	280	2680	—	
303	262	3939	3722	259	4060	3557	28	256	4205	5018	295	2322	2808	9	286	2685	—	
304	267	3936	3676	264	4056	3511	29	261	4200	4969	302	2328	2788	10	293	2689	—	
305	269	3886	3628	266	4004	3461	30	263	4146	4917	305	2301	2764	11	296	2689	—	

TABLE XIII.

Sunrise from 33° to 35° N. Latitude; also for BOMBAY and CALCUTTA.

Day of solar year.	Lat. 33°—480" Long.			Lat. 34°—228" Long.			Lat. 35°—1592" Long.			Lat. 19°—692" Long.			Lat. 22°5'—3020" Long.				
	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.	Eqn. of time in seconds.	☉'s Trop. Long. in seconds.	Total Corrn. in seconds.		
	A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920			A.D. 1840— 1920				
306	—271	—3835	—3580	—268	—3952	—3411	1	—265	—4092	—4865	—308	—2275	—2741	12	—299	—2628	+738
307	273	3785	3532	270	3900	3361	2	267	4037	4812	311	2263	2747	13	302	2596	762
308	275	3735	3483	272	3848	3311	3	269	3983	4760	314	2221	2693	14	305	2564	791
309	277	3684	3435	274	3797	3261	4	271	3929	4708	317	2194	2669	15	308	2532	820
310	280	3634	3388	277	3745	3212	5	273	3875	4656	320	2168	2646	16	310	2500	850
311	282	3584	3339	279	3693	3162	6	275	3821	4604	323	2141	2622	17	313	2468	879
312	284	3533	3291	281	3641	3113	7	277	3766	4552	326	2114	2598	18	316	2436	908
313	286	3483	3243	283	3589	3063	8	279	3712	4499	329	2088	2575	19	319	2404	937
314	288	3433	3194	285	3537	3013	9	281	3658	4447	332	2061	2551	20	322	2372	966
315	290	3382	3146	287	3485	2963	10	283	3604	4395	335	2034	2527	21	325	2340	995
316	293	3332	3070	289	3433	2883	11	285	3550	4313	338	2008	2482	22	328	2308	1049
317	295	3282	2993	291	3382	2804	12	287	3495	4231	341	1981	2439	23	331	2276	1102
318	297	3231	2915	293	3330	2724	13	289	3441	4149	344	1954	2396	24	334	2244	1156
319	299	3181	2838	295	3278	2645	14	291	3387	4067	347	1927	2351	25	337	2212	1210
320	301	3131	2761	297	3226	2585	15	293	3333	3985	350	1901	2308	26	340	2180	1264
321	303	3080	2684	299	3174	2485	16	295	3279	3903	353	1874	2263	27	342	2148	1318
322	306	3030	2608	301	3122	2406	17	297	3224	3821	356	1847	2218	28	345	2116	1372
323	308	2980	2530	303	3070	2326	18	299	3170	3739	359	1821	2173	1	348	2084	1426
324	310	2929	2453	305	3019	2247	19	301	3116	3657	362	1794	2104	2	351	2052	1479
325	312	2879	2376	307	2967	2167	20	303	3062	3575	365	1767	2057	3	353	2020	1534
326	314	2829	2299	309	2915	2087	21	305	3008	3493	368	1741	2010	4	356	1988	1588
327	316	2779	2222	311	2863	2008	22	307	2953	3411	371	1714	1963	5	359	1956	1641
328	318	2728	2144	313	2811	1928	23	309	2899	3329	374	1687	1916	6	361	1924	1696
329	320	2678	2067	315	2759	1849	24	311	2845	3247	377	1660	1869	7	364	1892	1749
330	322	2628	1990	317	2707	1769	25	313	2791	3165	380	1634	1822	8	366	1860	1804
331	324	2577	1913	319	2655	1689	26	315	2737	3083	383	1607	1775	9	369	1828	1858
332	326	2527	1836	321	2604	1610	27	317	2683	3001	385	1580	1727	10	371	1796	1912
333	328	2477	1758	323	2552	1530	28	319	2628	2919	387	1554	1679	11	373	1764	2068
334	330	2426	1681	325	2500	1451	29	321	2574	2837	389	1527	1631	12	375	1732	2021
335	332	2376	1604	327	2448	1371	1	323	2520	2755	391	1500	1583	13	377	1700	2076
336	332	2297	1525	327	2366	1289	2	323	2436	2671	391	1450	1534	14	377	1643	2133
337	332	2218	1446	327	2285	1208	3	323	2352	2587	392	1400	1484	15	378	1587	2188
338	333	2138	1367	328	2203	1127	4	324	2268	2504	392	1350	1434	16	378	1530	2230
339	333	2059	1288	328	2122	1046	5	324	2184	2420	393	1300	1385	17	380	1473	2287
340	333	1980	1209	328	2040	964	6	324	2100	2336	393	1250	1335	18	380	1416	2342
341	334	1901	1131	329	1958	883	7	325	2016	2253	394	1200	1286	19	381	1360	2408
342	334	1822	1052	329	1877	802	8	325	1932	2169	394	1150	1236	20	381	1303	2524
343	334	1742	972	329	1795	720	9	325	1848	2085	395	1100	1187	21	382	1246	2581
344	335	1663	891	330	1714	640	10	326	1764	2002	395	1050	1137	22	382	1190	2638
345	335	1584	815	330	1632	558	11	326	1680	1918	396	1000	1088	23	383	1133	2637
346	335	1505	736	330	1550	476	12	326	1596	1834	396	950	1038	24	383	1076	2694
347	336	1426	658	331	1469	396	13	327	1512	1751	397	900	989	25	384	1020	2749
348	336	1346	578	331	1387	314	14	327	1423	1667	397	850	939	26	384	963	2806
349	336	1267	499	331	1306	233	15	327	1344	1583	398	800	890	27	385	907	2862
350	337	1188	421	332	1224	152	16	328	1260	1500	398	750	840	28	385	850	2918
351	337	1109	342	332	1142	70	17	328	1176	1416	399	700	791	29	386	793	2974
352	337	1030	263	332	1061	11	18	328	1092	1332	399	650	741	30	386	737	3030
353	338	950	184	333	979	+ 92	19	329	1008	1249	400	600	692	31	387	679	3086
354	338	871	105	333	898	173	20	329	924	1165	400	550	642	1	387	624	3143
355	338	792	26	333	816	255	21	329	840	1081	401	500	593	2	388	567	3199
356	339	713	+ 52	334	734	336	22	330	756	998	401	450	543	3	388	510	3255
357	339	634	131	334	653	417	23	330	672	914	402	400	494	4	389	454	3310
358	339	554	201	334	571	499	24	330	588	830	402	350	444	5	389	397	3367
359	340	475	289	335	490	579	25	331	504	747	403	300	395	6	390	340	3422
360	340	396	368	335	408	661	26	331	420	663	403	250	345	7	390	283	3480
361	340	317	447	335	326	743	27	331	336	579	404	200	296	8	391	227	3535
362	341	238	525	336	245	823	28	332	252	496	404	150	246	9	391	171	3591
363	341	158	605	336	163	905	29	332	168	412	405	100	197	10	392	114	3647
364	341	79	684	336	82	986	30	332	84	328	405	50	147	11	392	57	3700
365	342	0	762	337	0	1067	31	333	0	245	405	0	97	12	392	0	3761

TABLE XIII—A.

# Latitudes and Longitudes of Chief places in British India and the Feudatory States.

(Longitudes are expressed by the difference in Seconds of time as compared with Ujjain.)

Serial No.	District.	Town.	Latitude in degrees & decimals of a degree.	Time difference in Seconds.	Serial No.	District.	Town.	Latitude in degrees & decimals of a degree.	Time difference in Seconds.
<b>BRITISH TERRITORY.</b>					<b>Bombay Province—(continued).</b>				
<b>Aden Province.</b>					37 Nasik ...	Nasik	20-0	— 480	
1 Aden ...	Aden		12-7	—7348	38 Panch Mahal ...	Godhra	22-7	— 520	
<b>Ajmere—Merwara Province.</b>					39 Poona ...	Poona	18-5	— 464	
2 Ajmere ...	Ajmere		26-5	— 280	40 Sholapur ...	Sholapur	17-7	+ 28	
3 Merwara ...	Nazirabad		26-3	— 256		Pandharpur	17-7	— 84	
	Beawar (Nayanagar)		26-0	— 352		Barsi	18-2	— 24	
<b>Baluchistan Province.</b>					41 Satara ...	Satara	17-7	— 428	
4 Quetta—Peshin	Quetta		30-2	—2104	42 Surat ...	Surat	12-2	— 708	
<b>Bengal Province.</b>					43 Thana ...	Bandra	19-0	— 708	
5 Balasore ...	Balasore		21-5	+2676	<b>Burma Province.</b>				
6 Bankura ...	Bankura		23-2	+2708	44 Akyab ...	Akyab	20-2	+4112	
7 Bhagalpur ...	Bhagalpur		25-2	+2692	45 Amberst ...	Moulmein	16-5	+5244	
8 Burdwan ...	Burdwan		23-2	+2896	46 Bassein ...	Bassein	16-7	+4556	
9 Champaram ...	Howrah		22-5	+3016	47 Henzada ...	Henzada	17-7	+4732	
	Bettiah		26-5	+2092	48 Mandalay ...	Mandalay	22-0	+4876	
10 Cuttack ...	Cuttack		20-5	+2420	49 Prome ...	Prome	18-8	+4664	
11 Darbhanga ...	Darbhanga		26-2	+2428	50 Rangoon ...	Rangoon	16-7	+4896	
12 Gaya ...	Gaya		24-5	+2216	51 Tavoy ...	Tavoy	14-1	+5380	
13 Hooghly ...	Hooghly and Chinsura		23-0	+3028	<b>Central Provinces.</b>				
	Serampore		22-7	+3016	52 Jubbalpore ...	Jubbalpore	23-2	+1000	
14 Midnapore ...	Midnapore		22-5	+2768	53 Nagpur ...	Kamptee	21-2	+ 820	
15 Monghyr ...	Monghyr		25-3	+2564		Nagpur	21-2	+ 800	
16 Murshidabad ...	Berhampore		24-0	+2996	54 Nimar ...	Burhanpur	21-3	+ 108	
17 Muzaftarpur ...	Hajipur		25-7	+2260	55 Raipur ...	Raipur	21-2	+1408	
	Muzaffarpur		26-0	+2308	56 Saugor ...	Saugor	23-8	+ 712	
18 Nadia ...	Krishnagar		23-5	+3056	<b>Eastern Bengal &amp; Assam Province.</b>				
	Santipur		23-2	+3040	57 Chittagong ...	Chittagong	23-3	+3852	
19 Twenty-four Parganas ...	Calcutta				58 Decca ...	Decca	23-7	+3508	
	Cossipur-Chitpur		22-5	+3020		Narayanganj			
	Garden Reach				59 Manipur ...	Imphal	24-8	+4360	
	Maniktala		23-0	+3032	60 Pabna ...	Sirajganj	24-5	+3352	
	Naihati		22-7	+3020	61 Rajshahi ...	Rampur-Bolia	24-3	+3076	
	Baranagar		23-0	+3032	<b>Madras Province.</b>				
	Bhatpara		25-7	+2252	62 Bellary ...	Adoni	15-7	+ 360	
20 Patna ...	Patna		25-2	+2336		Bellary	15-2	+ 256	
21 Puri ...	Dinapore		25-7	+2224	63 Chingleput ...	Conjeeveram	12-8	+ 940	
	Puri		19-8	+2408	64 Coimbatore ...	Coimbatore	11-0	+ 284	
22 Ranchi ...	Ranchi		23-3	+2292	65 Ganjam ...	Berhampore	19-3	+2164	
23 Saran ...	Chapra		25-8	+2148	66 Godavari ...	Cocanada	17-0	+1548	
24 Shahabad ...	Sasaram		25-0	+1976		Rajahmundry	17-0	+1436	
	Arrah		25-5	+2132	67 Kistna ...	Bezwada	16-5	+1160	
<b>Berar Province.</b>						Ellore	16-7	+1280	
25 Akola ...	Akola		20-7	+ 300		Masulipatam	16-2	+1284	
26 Amraoti ...	Amraoti		21-0	+ 480	68 Guntur ...	Guntur	16-3	+1124	
27 Ellichpur ...	Ellichpur		21-2	+ 424	69 Kurnool ...	Kurnool	15-8	+ 548	
<b>Bombay Province.</b>					70 Madras ...	Madras	13-0	+1072	
28 Ahmadabad ...	Ahmadabad		23-0	— 768	71 Madura ...	Madura	10-0	+ 560	
29 Ahmadnagar ...	Ahmadnagar		19-0	— 208		Bodinayakkanur	10-0	+ 376	
30 Belgaum ...	Belgaum		16-0	— 304		Dindigul	10-3	+ 528	
31 Bijapur ...	Bijapur		16-8	— 16	72 Malabar ...	Calicut	11-2	+ 0	
32 Bombay ...	Bombay		19-0	— 692		Cannanore	11-8	— 100	
33 Broach ...	Broach		21-7	— 672		Palghat	10-8	+ 208	
34 Dharwar ...	Hubli		15-3	— 152	73 Nellore ...	Tellicherry	11-7	— 72	
	Dharwar		15-5	— 184		Nellore	14-5	+1008	
	Gadag		15-5	— 36	74 North Arcot ...	Gudiyattam	13-0	+ 744	
35 Kaira ...	Nadiad		22-7	— 700		Vellore	12-9	+ 808	
36 Khandesh ...	Dhulia		21-0	— 240	75 Salem ...	Salem	11-7	+ 572	
					76 South Arcot ...	Cuddalore	11-7	+ 956	
					77 South Canara ...	Mangalore	12-8	— 224	
					78 Tanjore ...	Kumbakonam	11-0	+ 860	
						Negapatam	10-7	+ 976	

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XIV.

Jupiter's Cycle of 60 years—Northern System, showing suppressed years. A.D. 280 to A.D. 2000.

Difference in Seconds of time as compared with Ujjain.)											
0	Vijaya	...	2 80	3 39	3 98	4 58	5 17	5 76	6 36	0	6 95
1	Jaya	...	81	40	99	59	18	77	37	1	96
2	Manmatha	...	82	41	4 00	60	19	78	38	2	97
3	Durmukha	...	83	42	01	61	20	79	39	3	98
4	Hemalamba	...	84	43	02	62	21	80	40	4	99
5	Vilamba	...	85	44	03	63	22	81	41	5	7 00
6	Vikarin	...	86	45	04	64	23	82	42	6	01
7	Sarvari	...	87	46	05	65	24	83	43	7	02
8	Plava	...	88	47	06	66	25	84	44	8	03
9	Subhakrit	...	89	48	07	67	26	85	45	9	04
10	Sobhana	...	90	49	08	68	27	86	46	10	05
11	Krodhin	...	91	50	09	69	28	87	47	11	06
12	Visvavasu	...	92	51	10	70	29	88	48	12	07
13	Parabhava	...	93	52	11	71	30	89	49	13	08
14	Plavanga	...	94	53	12	72	31	90	50	14	09
15	Kilaka	...	95	54	13	73	32	91	51	15	10
16	Sanmya	...	96	55	14	74	33	92	52	16	11
17	Sadharana	...	97	56	15	75	34	93	53	17	12
18	Virodhakrit	...	98	57	16	76	35	94	...	18	13
19	Paridhavin	...	99	58	17	77	36	95	54	19	14
20	Pramadin	...	3 00	59	18	78	37	96	55	20	15
21	Ananda	...	01	60	19	79	38	97	56	21	16
22	Rakshasa	...	02	61	20	80	39	98	57	22	17
23	Anala	...	03	62	21	81	40	99	58	23	18
24	Pingala	...	04	63	22	82	41	6 00	59	24	19
25	Kalayukta	...	05	64	23	...	42	01	60	25	20
26	Siddharthin	...	06	65	24	83	43	02	61	26	21
27	Raudra	...	07	66	25	84	44	03	62	27	22
28	Durmati	...	08	67	26	85	45	04	63	28	23
29	Dundubhi	...	09	68	27	86	46	05	64	29	24
30	Rudhiredgarin	...	10	69	28	87	47	06	65	30	25
31	Raktaksha	...	11	70	29	88	48	07	66	31	26
32	Krodhana	...	...	71	30	89	49	08	67	32	27
33	Kshaya	...	12	72	31	90	50	09	68	33	28
34	Prabhava	...	13	73	32	91	51	10	69	34	29
35	Vibhava	...	14	74	33	92	52	11	70	35	30
36	Sukla	...	15	75	34	93	53	12	71	36	31
37	Pramoda	...	16	76	35	94	54	13	72	37	32
38	Prajapati	...	17	77	36	95	55	14	73	38	33
39	Angiras	...	18	78	37	96	56	15	74	39	34
40	Srimukha	...	19	79	38	97	57	16	75	40	35
41	Bhava	...	20	80	39	98	58	17	76	41	36
42	Yuvan	...	21	81	40	99	59	18	77	42	37
43	Dhatri	...	22	82	41	5 00	60	19	78	43	38
44	Isvara	...	23	83	42	01	61	20	79	44	39
45	Bahrudhanya	...	24	84	43	02	62	21	80	45	40
46	Pramathin	...	25	85	44	03	63	22	81	46	41
47	Vikrama	...	26	86	45	04	64	23	82	47	42
48	Vrisha	...	27	87	46	05	65	24	83	48	43
49	Chitrabhanu	...	28	88	47	06	66	25	84	49	44
50	Subhanu	...	29	89	48	07	67	26	85	50	45
51	Tarana	...	30	90	49	08	...	27	86	51	46
52	Parthiva	...	31	91	50	09	68	28	87	52	47
53	Vyaya	...	32	92	51	10	69	29	88	53	48
54	Sarvajit	...	33	93	52	11	70	30	89	54	49
55	Sarvadharin	...	34	94	53	12	71	31	90	55	50
56	Virodhin	...	35	95	54	13	72	32	91	56	51
57	Vikrita	...	36	96	55	14	73	33	92	57	52
58	Khara	...	37	97	56	15	74	34	93	58	53
59	Nandana	...	38	...	57	16	75	35	94	59	54

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15								
	July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.





**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XVII.—*contd.*

Mercury's mean motion for Days.											Mercury's Annual Equation.		Mercury's Anomaly.				
Days.	0	1	2	3	4	5	6	7	8	9	+	—	+	+	—	—	—
											Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.
0	...	4-09	8-18	12-28	16-37	20-46	24-55	28-65	32-74	36-83	0	0-0	360-0	0-0	0-0	180-0	180-0
1	40-92	45-02	49-11	53-20	57-29	61-38	65-48	69-57	73-66	77-75	1	3-7	356-3	0-1	1-2	178-8	181-2
2	81-87	85-94	90-03	94-12	98-22	102-31	106-40	110-49	114-59	118-68	2	7-4	352-6	0-2	2-4	177-6	182-4
3	122-77	126-86	130-95	135-05	139-14	143-23	147-32	151-42	155-51	159-60	3	11-2	348-8	0-3	3-6	176-4	183-6
4	163-69	167-79	171-88	175-97	180-06	184-15	188-25	192-34	196-43	200-52	4	14-9	345-1	0-4	4-9	175-1	184-9
5	204-62	208-71	212-80	216-89	220-99	225-08	229-17	233-26	237-36	241-45	5	18-7	341-3	0-5	6-0	174-0	186-0
6	245-54	249-63	253-72	257-82	261-91	266-00	270-09	274-19	278-28	282-37	6	22-5	337-5	0-6	7-2	172-8	187-2
7	286-46	290-56	294-65	298-74	302-83	306-92	311-02	315-11	319-20	323-29	7	26-4	333-6	0-7	8-5	171-5	188-5
8	327-39	331-48	335-57	339-66	343-76	347-85	351-94	356-03	0-13	4-22	8	30-2	329-8	0-8	9-7	170-3	189-7
9	8-31	12-40	16-49	20-59	24-68	28-77	32-86	36-96	41-05	45-14	9	34-7	325-3	0-9	11-0	169-0	191-0
10	49-23	53-33	57-42	61-51	65-60	69-69	73-79	77-88	81-97	86-06	10	38-2	321-8	1-0	12-2	167-8	192-2
11	90-16	94-25	98-34	102-43	106-53	110-62	114-71	118-80	122-90	126-99	11	42-3	317-7	1-1	13-5	166-5	193-5
12	131-08	135-17	139-26	143-36	147-45	151-54	155-63	159-73	163-82	167-91	12	46-5	313-5	1-2	14-7	165-3	194-7
13	172-00	176-10	180-19	184-28	188-37	192-47	196-56	200-65	204-74	208-83	13	50-7	309-3	1-3	16-1	163-9	196-1
14	212-93	217-02	221-11	225-20	229-30	233-39	237-48	241-57	245-67	249-76	14	55-2	304-8	1-4	17-4	162-6	197-4
15	253-85	257-94	262-03	266-13	270-22	274-31	278-40	282-50	286-59	290-68	15	59-8	300-2	1-5	18-7	161-3	198-7
16	294-77	298-87	302-96	307-05	311-14	315-24	319-33	323-42	327-51	331-60	16	64-6	295-4	1-6	20-1	159-9	200-1
17	335-70	339-79	343-88	347-97	352-07	356-16	0-25	4-34	8-44	12-53	17	69-8	290-2	1-7	21-5	158-5	201-5
18	16-62	20-71	24-80	28-90	32-99	37-08	41-17	45-27	49-36	53-45	18	75-4	284-6	1-8	22-7	157-3	202-7
19	57-54	61-64	65-73	69-82	73-91	78-01	82-10	86-19	90-28	94-37	19	81-6	278-4	1-9	24-2	155-8	204-2
20	98-47	102-56	106-65	110-74	114-84	118-93	123-02	127-11	131-21	135-30	20	88-7	271-3	2-0	25-6	154-4	205-6
21	139-39	143-48	147-58	151-67	155-76	159-85	163-94	168-04	172-13	176-22	21	98-6	261-4	2-1	27-0	153-0	207-0
22	180-31	184-41	188-50	192-59	196-68	200-78	204-87	208-96	213-05	217-15	21-5	112-2	247-8	2-2	28-5	151-5	208-5
23	221-24	225-33	229-42	233-51	237-61	241-70	245-80	249-88	253-98	258-07	22	+	—	2-3	29-9	150-1	209-9
24	262-16	266-25	270-35	274-44	278-53	282-62	286-71	290-80	294-90	298-99	23	123-7	236-3	2-4	31-4	148-6	211-4
25	303-08	307-18	311-27	315-36	319-45	323-55	327-64	331-73	335-82	339-92	24	131-5	228-5	2-5	33-0	147-0	213-0
26	344-01	348-10	352-19	356-28	0-38	4-47	8-56	12-65	16-75	20-84	25	136-6	223-4	2-6	34-5	145-5	214-5
27	24-93	29-02	33-12	37-21	41-30	45-39	49-49	53-58	57-67	61-76	26	140-7	219-3	2-7	36-0	144-0	216-0
28	65-85	69-95	74-04	78-13	82-22	86-32	90-41	94-50	98-59	102-69	27	144-3	215-7	2-8	37-7	142-3	217-7
29	106-78	110-87	114-96	119-06	123-15	127-24	131-33	135-42	139-52	143-61	28	147-4	212-6	2-9	39-4	140-6	219-4
30	147-70	151-79	155-89	159-98	164-07	168-16	172-26	176-35	180-44	184-53	29	150-3	209-7	3-0	41-2	138-8	221-2
31	188-62	192-72	196-81	200-90	204-99	209-09	213-18	217-27	221-36	225-46	30	152-9	207-1	3-1	42-9	137-1	222-9
32	229-55	233-64	237-73	241-82	245-92	250-00	254-10	258-19	262-29	266-38	31	155-3	204-7	3-2	44-7	135-3	224-7
33	270-47	274-56	278-66	282-75	286-84	290-93	295-03	299-12	303-21	307-30	32	157-6	202-4	3-3	46-6	133-4	226-6
34	311-39	315-49	319-58	323-67	327-76	331-86	335-95	340-04	344-13	348-23	33	159-8	200-2	3-4	48-5	131-5	228-5
35	352-32	356-41	0-50	4-60	8-69	12-78	16-87	20-96	25-06	29-15	34	161-9	198-1	3-5	50-6	129-4	230-6
36	33-24	37-33	41-43	45-52	49-61	53-70	...	...	...	...	35	163-9	196-1	3-6	52-7	127-3	232-7
											36	165-8	194-2	3-7	55-0	125-0	235-0
											1	167-7	192-3	3-8	57-5	122-5	237-5
											2	169-5	190-5	3-9	60-0	120-0	240-0
											3	171-3	188-7	4-0	63-0	117-0	243-0
											4	173-1	186-9	4-1	66-0	114-0	246-0
											5	174-8	185-2	4-2	69-7	110-2	249-7
											6	176-6	183-4	4-3	74-0	106-0	254-0
											7	178-3	181-7	4-4	80-5	99-5	260-5
											8	180-0	180-0	4-5	90-0	90-0	270-0

## JUPITER.

Data for calculating Latitude and geocentric Longitude of Jupiter from B.C. 1 to A.D. 2000.

Jupiter's mean motion for Centuries.									
A.D.	Kaliyuga.	Mean long. at commence- ment of Solar Year.	Longi- tude of apsis.	Longi- tude of node.	A.D.	Kaliyuga.	Mean long. at commence- ment of Solar Year.	Longi- tude of apsis.	Longi- tude of node.
		Deg.	Deg.	Deg.			Deg.	Deg.	Deg.
1 B.C.	3101 K.Y.	163-1655	171-2250	79-6967	1000 A.D.	4101 K.Y.	270-6117	171-3001	79-6822
100 A.D.	3201	317-9101	171-2325	79-6952	1100	4201	65-3563	171-3076	79-6807
200	3301	112-6547	171-2400	79-6938	1200	4301	220-1009	171-3151	79-6793
300	3401	267-3993	171-2475	79-6923	1300	4401	14-8455	171-3226	79-6778
400	3501	62-1439	171-2550	79-6909	1400	4501	169-5901	171-3301	79-6764
500	3601	216-8885	171-2625	79-6894	1500	4601	324-3347	171-3376	79-6749
600	3701	11-6331	171-2700	79-6880	1600	4701	119-0793	171-3451	79-6735
700	3801	166-3778	171-2776	79-6865	1700	4801	273-8239	171-3526	79-6720
800	3901	321-1225	171-2851	79-6851	1800	4901	68-5665	171-3601	79-6706
900	4001	115-8671	171-2926	79-6836	1900	5001	223-3130	171-3676	79-6691



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

Nakshatras.			Yogas.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.								
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.								
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)								
June	7	39	7			2	30	40
	26	6	10			26	6	10
	0	16	14			0	16	14
June	34	1	31			28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾								
	1	19	47			27	33	17 (1 Anom. Month.)
June	33	55	11			1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

Nakshatras.			Yogas.			☉'s Anom.			☾'s Anom.		
d.	gh.	p.	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.											
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.											
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.											
July	7	10	57			84	58	29	4	29	13
	3	58	34			3	58	34	3	58	34
	0	30	13			0	30	13	0	30	13
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.											
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
	11	39	44			89	27	16	8	58	0
Sum - 18 gh. 15 p.											
	-	18	15			(☉'s Yoga Eqn.) +					
July	11	21	29			8 59 25					

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XVII.—contd.

## Saturn's mean motion for Odd Years.

Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.
1	12:22	11	134:41	21	256:60	31	18:79	41	140:98	51	263:17	61	25:36	71	147:55	81	269:74	91	31:93		
2	24:44	12	146:63	22	268:82	32	31:01	42	153:20	52	275:39	62	37:58	72	159:77	82	281:96	92	44:15		
3	36:66	13	158:85	23	281:04	33	43:23	43	165:42	53	287:61	63	49:80	73	171:99	83	294:18	93	56:37		
4	48:88	14	171:07	24	293:26	34	55:45	44	177:64	54	299:83	64	62:02	74	184:21	84	306:40	94	68:59		
5	61:09	15	183:29	25	305:48	35	67:67	45	189:86	55	312:05	65	74:24	75	196:43	85	318:62	95	80:81		
6	73:31	16	195:50	26	317:70	36	79:89	46	202:08	56	324:27	66	86:46	76	208:65	86	330:84	96	93:03		
7	85:53	17	207:72	27	329:91	37	92:10	47	214:30	57	336:49	67	98:68	77	220:87	87	343:06	97	105:25		
8	97:75	18	219:94	28	342:13	38	104:32	48	226:51	58	348:71	68	110:90	78	233:09	88	355:28	98	117:47		
9	109:97	19	232:16	29	354:35	39	116:54	49	238:73	59	0:92	69	123:12	79	245:31	89	7:50	99	129:69		
10	122:19	20	244:38	30	6:57	40	128:76	50	250:95	60	13:14	70	135:33	80	257:52	90	19:72	100	141:31		

## Saturn's mean motion for Days.

Days.	0	1	2	3	4	5	6	7	8	9	Days.	0	1	2	3	4	5	6	7	8	9
0	...	0:03	0:07	0:10	0:13	0:17	0:20	0:23	0:27	0:30	19	6:36	6:39	6:42	6:46	6:49	6:52	6:56	6:59	6:62	6:66
1	0:33	0:37	0:40	0:43	0:47	0:50	0:53	0:57	0:60	0:64	20	6:69	6:72	6:76	6:79	6:83	6:86	6:89	6:93	6:96	6:99
2	0:67	0:70	0:74	0:77	0:80	0:84	0:87	0:90	0:94	0:97	21	7:03	7:06	7:09	7:13	7:16	7:19	7:23	7:26	7:29	7:33
3	1:00	1:04	1:07	1:10	1:14	1:17	1:20	1:24	1:27	1:30	22	7:36	7:39	7:43	7:46	7:49	7:53	7:56	7:59	7:63	7:66
4	1:34	1:37	1:40	1:44	1:47	1:51	1:54	1:57	1:61	1:64	23	7:70	7:73	7:76	7:80	7:83	7:86	7:90	7:93	7:96	8:00
5	1:67	1:71	1:74	1:77	1:81	1:84	1:87	1:91	1:94	1:97	24	8:03	8:06	8:10	8:13	8:16	8:20	8:23	8:26	8:29	8:33
6	2:01	2:04	2:07	2:11	2:14	2:17	2:21	2:24	2:27	2:31	25	8:36	8:40	8:43	8:46	8:50	8:53	8:57	8:60	8:63	8:67
7	2:34	2:38	2:41	2:44	2:48	2:51	2:54	2:58	2:61	2:64	26	8:70	8:73	8:77	8:80	8:83	8:87	8:90	8:93	8:97	9:00
8	2:68	2:71	2:74	2:78	2:81	2:84	2:88	2:91	2:94	2:98	27	9:03	9:07	9:10	9:13	9:17	9:20	9:23	9:27	9:30	9:33
9	3:01	3:04	3:08	3:11	3:14	3:18	3:21	3:25	3:28	3:31	28	9:37	9:40	9:43	9:47	9:50	9:54	9:57	9:60	9:64	9:67
10	3:35	3:38	3:41	3:45	3:48	3:51	3:55	3:58	3:61	3:65	29	9:70	9:74	9:77	9:80	9:84	9:87	9:90	9:94	9:97	10:00
11	3:68	3:71	3:75	3:78	3:81	3:85	3:88	3:91	3:95	3:98	30	10:04	10:07	10:10	10:14	10:17	10:20	10:24	10:27	10:31	10:34
12	4:01	4:05	4:08	4:12	4:15	4:18	4:22	4:25	4:28	4:32	31	10:37	10:41	10:44	10:47	10:51	10:54	10:57	10:61	10:64	10:67
13	4:35	4:38	4:42	4:45	4:48	4:52	4:55	4:58	4:62	4:65	32	10:71	10:74	10:77	10:81	10:84	10:87	10:91	10:94	10:97	11:01
14	4:68	4:72	4:75	4:78	4:82	4:85	4:88	4:92	4:95	4:99	33	11:04	11:07	11:11	11:14	11:18	11:21	11:24	11:28	11:31	11:34
15	5:02	5:05	5:09	5:12	5:15	5:19	5:22	5:25	5:29	5:32	34	11:38	11:41	11:44	11:48	11:51	11:54	11:58	11:61	11:64	11:68
16	5:35	5:39	5:42	5:45	5:49	5:52	5:55	5:59	5:62	5:65	35	11:71	11:74	11:78	11:81	11:84	11:88	11:91	11:94	11:98	12:01
17	5:69	5:72	5:75	5:79	5:82	5:85	5:89	5:92	5:96	5:99	36	12:05	12:08	12:11	12:15	12:18	12:21	...	...	...	...
18	6:02	6:06	6:09	6:12	6:16	6:19	6:22	6:26	6:29	6:32											

## Saturn's Annual Equation.

+	0	1	2	3	4	5	6	7	8	9	—	0	1	2	3	4	5	6	7	8	9
0	0:0	1:0	2:0	3:1	4:1	5:1	6:1	7:1	8:2	9:2	0	180:0	180:8	181:7	182:5	183:3	184:1	184:9	185:8	186:6	187:4
1	10:2	11:2	12:2	13:3	14:4	15:4	16:4	17:5	18:5	19:6	1	188:3	189:1	189:9	190:8	191:6	192:4	193:3	194:1	194:9	195:8
2	20:6	21:7	22:7	23:8	24:9	26:0	27:1	28:2	29:2	30:4	2	196:7	197:5	198:4	199:4	200:8	201:1	201:9	202:8	203:8	204:7
3	31:5	32:6	33:7	34:9	36:1	37:2	38:4	39:6	40:8	42:0	3	205:6	206:5	207:5	208:4	209:4	210:3	211:3	212:3	213:3	214:4
4	43:2	44:5	45:8	47:1	48:5	49:7	51:1	52:6	54:0	55:5	4	215:4	216:5	217:5	218:7	219:8	221:0	222:1	223:4	224:6	225:9
5	57:0	58:5	60:1	61:7	63:5	65:4	67:2	69:2	71:5	73:7	5	227:3	228:5	229:8	231:3	233:0	234:6	236:3	238:3	240:0	242:3
6	76:2	79:3	82:7	87:5	97:6	...	...	...	...	...	6	244:3	247:3	250:8	255:0	262:3	...	...	...	...	...

Maximum Equation 6:3787 for Anomaly of 97:50.

+	9	8	7	6	5	4	3	2	1	0
6	...	...	...	...	97:5	105:0	109:2	112:7	115:7	
5	117:7	120:0	121:7	123:7	125:4	127:0	128:7	130:2	131:5	132:7
4	134:1	135:4	136:6	137:9	139:0	140:2	141:3	142:5	143:5	144:6
3	145:6	146:7	147:7	148:7	149:7	150:3	151:6	152:5	153:5	154:4
2	155:3	156:2	157:2	158:1	158:9	159:2	160:7	161:6	162:5	163:3
1	164:2	165:1	165:9	166:7	167:6	168:4	169:2	170:1	170:9	171:7
0	172:6	173:4	174:2	175:1	175:9	176:7	177:5	178:3	179:2	180:0

## Saturn's Anomaly.

+	0	1	2	3	4	5	6	7	8	9
0	0:0	0:7	1:5	2:2	2:9	3:7	4:4	5:2	5:9	6:7
1	7:4	8:1	8:9	9:6	10:4	11:2	11:9	12:7	13:4	14:2
2	14:9	15:7	16:5	17:2	18:1	18:8	19:6	20:4	21:2	22:0
3	22:8	23:7	24:5	25:3	26:1	26:9	27:8	28:7	29:5	30:3
4	31:2	32:1	33:0	33:9	34:8	35:7	36:7	37:6	38:5	39:5
5	40:5	41:5	42:5	43:5	44:6	45:6	46:7	47:9	49:0	50:1
6	51:4	52:5	53:9	55:1	56:5	57:9	59:2	60:9	62:5	64:1
7	66:0	67:7	70:0	72:2	75:0	78:2	83:0	90:0		

Maximum Equation 7:6586 for Anomaly of 90:00.

+	9	8	7	6	5	4	3	2	1	0
7	...	...	90:0	97:0	101:8	105:0	107:8	110:0	112:3	114:0
6	115:9	117:5	119:1	120:8	122:1	123:5	124:9	126:1	127:5	128:6
5	129:9	131:0	132:1	133:3	134:4	135:4	136:5	137:5	138:5	139:5
4	140:5	141:5	142:4	143:3	144:3	145:2	146:1	147:0	147:9	148:8
3	149:7	150:5	151:3	152:2	153:1	153:9	154:7	155:5	156:3	157:2
2	158:0	158:8	159:6	160:4	161:2	161:9	162:8	163:5	164:3	165:1
1	165:8	166:3	167:3	168:1	168:8	169:6	170:4	171:1	171:9	172:6
0	173:3	174:1	174:8	175:6	176:3	177:1	177:8	178:5	179:3	180:0

Maximum Equation 6:3767 for Anomaly of 262:50.

—	9	8	7	6	5	4	3	2	1	0
6	...	...	...	...	262:5	272:5	277:3	280:8	283:8	
5	286:3	288:5	290:8	292:8	294:6	296:5	298:3	299:9	301:5	303:0
4	304:5	306:0	307:5	308:9	310:3	311:5	312:9	314:1	315:5	316:8
3	318:0	319:2	320:4	321:6	322:8	323:9	325:1	326:3	327:4	328:5
2	329:6	330:3	331:8	332:9	334:0	335:1	336:2	337:3	338:3	339:4
1	340:4	341:5	342:5	343:6	344:6	345:6	346:7	347:8	348:8	349:8
0	350:8	351:8	352:9	353:9	354:9	355:9	356:9	358:0	359:0	360:0

## Saturn's Anomaly.

Degrees.										
0	180:0	180:7	181:5	182:2	182:9	183:7	184:4	185:2	185:9	186:7
1	187:4	188:1	188:9	189:6	190:4	191:2	191:9	192:7	193:4	194:2
2	194:9	195:7	196:5	197:2	198:1	198:8	199:6	200:4	201:2	202:0
3	202:8	203:7	204:5	205:3	206:1	206:9	207:8	208:7	209:5	210:3
4	211:2	212:1	213:0	213:9	214:8	215:7	216:7	217:6	218:5	219:5
5	220:5	221:5	222:5	223:5	224:6	225:6	226:7	227:9	229:0	230:1
6	231:4	232:5	233:9	235:1	236:5	237:9	239:2	240:9	242:5	244:1
7	246:0	247:7	250:0	252:2	255:0	258:2	263:0	270:0	...	...

TABLE XVII. A.

Sun's mean Longitude and Equation for every complete day of Hindu Solar year.

Day	☉'s mean longitude.	Eqn.	Day	☉'s mean longitude.	Eqn.	Day	☉'s mean longitude.	Eqn.	Day	☉'s mean longitude.	Eqn.	Day	☉'s mean longitude.	Eqn.
	Degrees.			Degrees.			Degrees.			Degrees.			Degrees.	
0	357-8606	+2-1378	61	57-9823	+7267	122	118-1041	-1-4333	183	178-2258	-2-1367	244	238-3476	-7203
1	358-8462	2-1333	62	58-9679	-6919	123	119-0897	1-4586	184	179-2114	2-1305	245	239-3332	-6833
2	359-8318	2-1228	63	59-9535	-6561	124	120-0753	1-4883	185	180-1970	2-1219	246	240-3188	-6469
3	0-8174	2-1133	64	60-9391	-6192	125	121-0609	1-5133	186	181-1827	2-1133	247	241-3044	-6097
4	1-8030	2-1036	65	61-9247	-5847	126	122-0465	1-5405	187	182-1683	2-1061	248	242-2190	-5739
5	2-7386	2-0967	66	62-9103	-5480	127	123-0321	1-5667	188	183-1539	2-0964	249	243-2756	-5369
6	3-7742	2-0858	67	63-8959	-5111	128	124-0177	1-5919	189	184-1395	2-0853	250	244-2612	-5000
7	4-7598	2-0767	68	64-8815	-4739	129	125-0037	1-6167	190	185-1251	2-0753	251	245-2468	-4636
8	5-7454	2-0647	69	65-8671	-4369	130	125-8889	1-6433	191	186-1107	2-0642	252	246-3324	-4253
9	6-7310	2-0514	70	66-8527	-4000	131	126-9745	1-6667	192	187-0963	2-0519	253	247-2180	-3883
10	7-7166	2-0394	71	67-8383	-3622	132	127-9601	1-6894	193	188-0819	2-0388	254	248-2036	-3500
11	8-7022	2-0267	72	68-8239	-3192	133	128-9457	1-7133	194	189-0675	2-0261	255	249-1892	-3122
12	9-6878	2-0122	73	69-8096	-2869	134	129-9313	1-7358	195	190-0531	2-0125	256	250-1748	-2753
13	10-6734	1-9986	74	70-7952	-2486	135	130-9169	1-7572	196	191-0387	1-9978	257	251-1604	-2369
14	11-6590	1-9833	75	71-7808	-2167	136	131-9025	1-7789	197	192-0243	1-9819	258	252-1460	-1992
15	12-6446	1-9667	76	72-7664	-1717	137	132-8881	1-8000	198	193-0099	1-9661	259	253-1316	-1597
16	13-6302	1-9500	77	73-7520	-1333	138	133-8737	1-8217	199	193-9955	1-9514	260	254-1172	-1228
17	14-6158	1-9333	78	74-7376	-975	139	134-8593	1-8419	200	194-9811	1-9333	261	255-1029	-0847
18	15-6014	1-9167	79	75-7232	-0600	140	135-8449	1-8597	201	195-9667	1-9161	262	256-0885	-0469
19	16-5870	1-9000	80	76-7088	-0203	141	136-8305	1-8789	202	196-9523	1-9003	263	257-0741	-0086
20	17-5726	1-8833	81	77-6944	-0167	142	137-8161	1-8980	203	197-9379	1-8808	264	258-0597	+0394
21	18-5582	1-8622	82	78-6800	-0550	143	138-8017	1-9167	204	198-9235	1-8600	265	259-0453	+0764
22	19-5438	1-8419	83	79-6656	-0933	144	139-7873	1-9333	205	199-9091	1-8417	266	260-0309	+1111
23	20-5294	1-8217	84	80-6512	-1314	145	140-7729	1-9500	206	200-8947	1-8222	267	261-0165	+1469
24	21-5150	1-8025	85	81-6368	-1692	146	141-7585	1-9667	207	201-8803	1-8014	268	262-0021	+1847
25	22-5006	1-7814	86	82-6224	-2072	147	142-7441	1-9825	208	202-8659	1-7805	269	262-9877	+2239
26	23-4862	1-7600	87	83-6080	-2444	148	143-7298	1-9980	209	203-8515	1-7575	270	263-9733	+2586
27	24-4718	1-7383	88	84-5936	-2833	149	144-7154	2-0122	210	204-8371	1-7369	271	264-9589	+2992
28	25-4574	1-7167	89	85-5792	-3203	150	145-7010	2-0253	211	205-8227	1-7139	272	265-9445	+3369
29	26-4430	1-6933	90	86-5648	-3572	151	146-6866	2-0369	212	206-8083	1-6894	273	266-9301	+3739
30	27-4286	1-6680	91	87-5504	-3955	152	147-6722	2-0492	213	207-7939	1-6664	274	267-9157	+4122
31	28-4142	1-6455	92	88-5360	-4333	153	148-6578	2-0611	214	208-7795	1-6433	275	268-9013	+4500
32	29-3998	1-6192	93	89-5216	-4692	154	149-6434	2-0739	215	209-7651	1-6178	276	269-8869	+4869
33	30-3854	1-5955	94	90-5072	-5061	155	150-6290	2-0858	216	210-7507	1-5922	277	270-8725	+5253
34	31-3710	1-5692	95	91-4928	-5433	156	151-6146	2-0955	217	211-7363	1-5667	278	271-8581	+5611
35	32-3567	1-5455	96	92-4784	-5789	157	152-6002	2-1036	218	212-7219	1-5411	279	272-8437	+5950
36	33-3423	1-5167	97	93-4640	-6167	158	153-5858	2-1136	219	213-7105	1-5130	280	273-8293	+6347
37	34-3279	1-4914	98	94-4496	-6525	159	154-5714	2-1228	220	214-6931	1-4869	281	274-8149	+6692
38	35-3135	1-4633	99	95-4352	-6894	160	155-5570	2-1314	221	215-6787	1-4589	282	275-8005	+7061
39	36-2991	1-4358	100	96-4208	-7228	161	156-5426	2-1383	222	216-6643	1-4308	283	276-7861	+7419
40	37-2847	1-4061	101	97-4064	-7586	162	157-5282	2-1433	223	217-6499	1-4028	284	277-7717	+7764
41	38-2703	1-3778	102	98-3920	-7944	163	158-5138	2-1494	224	218-6356	1-3733	285	278-7573	+8122
42	39-2559	1-3480	103	99-3776	-8289	164	159-4994	2-1567	225	219-6212	1-3439	286	279-7429	+8469
43	40-2415	1-3180	104	100-3632	-8633	165	160-4850	2-1603	226	220-6068	1-3144	287	280-7285	+8808
44	41-2271	1-2894	105	101-3488	-8986	166	161-4706	2-1617	227	221-5924	1-2828	288	281-7141	+9147
45	42-2127	1-2586	106	102-3344	-9333	167	162-4562	2-1667	228	222-5780	1-2533	289	282-6997	+9500
46	43-1983	1-2197	107	103-3200	-9667	168	163-4418	2-1692	229	223-5636	1-2228	290	283-6853	+9833
47	44-1839	1-1967	108	104-3056	-10009	169	164-4274	2-1728	230	224-5492	1-1905	291	284-6709	+10192
48	45-1695	1-1647	109	105-2912	-10333	170	165-4130	2-1742	231	225-5348	1-1589	292	285-6565	+10508
49	46-1551	1-1347	110	106-2760	-10667	171	166-3986	2-1755	232	226-5204	1-1283	293	286-6421	+10850
50	47-1407	1-1014	111	107-2625	-11000	172	167-3842	2-1769	233	227-5060	1-0967	294	287-6277	+11167
51	48-1263	1-0703	112	108-2481	-11308	173	168-3698	2-1755	234	228-4916	1-0614	295	288-6133	+11483
52	49-1119	1-0369	113	109-2337	-11622	174	169-3554	2-1742	235	229-4772	1-0283	296	289-5984	+11814
53	50-0975	1-0025	114	110-2193	-11955	175	170-3410	2-1728	236	230-4628	-9953	297	290-5845	+12130
54	51-0831	-9703	115	111-2049	-12253	176	171-3266	2-1714	237	231-4484	-9622	298	291-5701	+12439
55	52-0687	-9358	116	112-1905	-12561	177	172-3122	2-1678	238	232-4340	-9280	299	292-5558	+12747
56	53-0543	-9025	117	113-1761	-12858	178	173-2978	2-1642	239	233-4196	-8928	300	293-5414	+13086
57	54-0399	-8667	118	114-1617	-13167	179	174-2834	2-1597	240	234-4052	-8597	301	294-5270	+13322
58	55-0255	-8333	119	115-1473	-13455	180	175-2690	2-1561	241	235-3908	-8228	302	295-5126	+13622
59	56-0111	-7964	120	116-1329	-13739	181	176-2546	2-1489	242	236-3764	-7894	303	296-4982	+13903
60	56-9967	-7622	121	117-1185	-14025	182	177-2402	2-1439	243	237-3620	-7536	304	297-4838	+14197

## TABLE XVII B.

## RAHU.

Tab. XVII. A. - contd.

Day ☉'s mean  
longitude. Eqn.

	Degrees.	
305	298.4694	+1.4492
306	299.4550	1.4747
307	300.4406	1.5042
308	301.4262	1.5297
309	302.4118	1.5567
310	303.3974	1.5833
311	304.3830	1.6089
312	305.3686	1.6344
313	306.3542	1.6589
314	307.3398	1.6819
315	308.3254	1.7050
316	309.3110	1.7280
317	310.2966	1.7497
318	311.2822	1.7728
319	312.2678	1.7922
320	313.2534	1.8153
321	314.2390	1.8347
322	315.2226	1.8530
323	316.2102	1.8725
324	317.1958	1.8917
325	318.1814	1.9111
326	319.1670	1.9269
327	320.1526	1.9453
328	321.1382	1.9611
329	322.1238	1.9758
330	323.1094	1.9917
331	324.0950	2.0064
332	325.0806	2.0211
333	326.0662	2.0347
334	327.0518	2.0483
335	328.0370	2.0597
336	329.0231	2.0708
337	330.0087	2.0819
338	330.9943	2.0930
339	331.9799	2.1017
340	332.9655	2.1114
341	333.9511	2.1211
342	334.9367	2.1283
343	335.9223	2.1369
344	336.9079	2.1430
345	337.8935	2.1480
346	338.8791	2.1542
347	339.8647	2.1592
348	340.8503	2.1628
349	341.8359	2.1653
350	342.8215	2.1689
351	343.8071	2.1703
352	344.7927	2.1717
353	345.7783	2.1730
354	346.7639	2.1755
355	347.7495	2.1764
356	348.7351	2.1739
357	349.7207	2.1714
358	350.7063	2.1700
359	351.6919	2.1686
360	352.6775	2.1650
361	353.6631	2.1625
362	354.6487	2.1589
363	355.6343	2.1528
364	356.6199	2.1467
365	357.6055	2.1405

Mean place of Rahu for centuries, odd years, days and fractions of days.

## Mean place of Rahu for Centuries.

	K.Y.	Deg.	A.D.	K.Y.	Deg.	A.D.	K.Y.	Deg.
1 B.C.	3101	285.2370	700	3801	58.2280	1400	4501	191.2191
100 A.D.	3201	149.9500	800	3901	282.9410	1500	4601	55.9321
200	3301	14.6630	900	4001	147.6540	1600	4701	280.6451
300	3401	239.3760	1000	4101	12.3670	1700	4801	145.3581
400	3501	104.0890	1100	4201	237.0800	1800	4901	10.0711
500	3601	328.8020	1200	4301	101.7931	1900	5001	234.7841
600	3701	193.5150	1300	4401	326.5061	2000	5101	99.4971

## Mean place of Rahu for Odd Years.

Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.	Yrs.	Deg.
1	19.3529	18	348.3517	35	317.3504	52	286.3492	69	255.3480	86	224.3468
2	38.7057	19	7.7045	36	336.7033	53	305.7021	70	274.7009	87	243.6997
3	58.0586	20	27.0574	37	356.0562	54	325.0550	71	294.0538	88	263.0525
4	77.4115	21	46.4103	38	15.4091	55	344.4078	72	313.4066	89	282.4054
5	96.7643	22	65.7631	39	34.7619	56	3.7607	73	332.7595	90	301.7583
6	116.1172	23	85.1160	40	54.1148	57	23.1136	74	352.1124	91	321.1112
7	135.4701	24	104.4689	41	73.4677	58	42.4664	75	11.4652	92	340.4640
8	154.8229	25	123.8217	42	92.8205	59	61.8193	76	30.8181	93	359.8169
9	174.1758	26	143.1746	43	112.1734	60	81.1722	77	50.1710	94	19.1698
10	193.5287	27	162.5275	44	131.5263	61	100.5251	78	69.5238	95	38.5226
11	212.8816	28	181.8803	45	150.8791	62	119.8779	79	88.8767	96	57.8755
12	232.2344	29	201.2332	46	170.2320	63	139.2308	80	108.2296	97	77.2284
13	251.5873	30	220.5861	47	189.5849	64	158.5837	81	127.5825	98	96.5812
14	270.9402	31	239.9390	48	208.9377	65	177.9365	82	146.9353	99	115.9341
15	290.2930	32	259.2918	49	228.2906	66	197.2894	83	166.2882	...	...
16	309.6459	33	278.6447	50	247.6435	67	216.6423	84	185.6411	...	...
17	328.9988	34	297.9976	51	266.9964	68	235.9951	85	204.9939	...	...

## Mean place of Rahu at Ujjain Sunrise on 0 day of each Solar Year.

## A.D. 1840 to A.D. 1920.

A.D.	Deg.	A.D.	Deg.	A.D.	Deg.	A.D.	Deg.	A.D.	Deg.	A.D.	Deg.
1840	315.9563	1854	45.0161	1868	134.0759	1882	223.1357	1896	312.1956	1910	41.2554
1841	296.6034	1855	25.6632	1869	114.7231	1883	203.7829	1897	292.8427	1911	21.9025
1842	277.2505	1856	6.3104	1870	95.3702	1884	184.4300	1898	273.4898	1912	2.5496
1843	257.8977	1857	346.9575	1871	76.0173	1885	165.0771	1899	254.1370	1913	343.1968
1844	238.5448	1858	327.6046	1872	56.6644	1886	145.7243	1900	234.7841	1914	323.8439
1845	219.1919	1859	308.2518	1873	37.3116	1887	126.3714	1901	215.4312	1915	304.4910
1846	199.8391	1860	288.8989	1874	17.9587	1888	107.0185	1902	196.0783	1916	285.1382
1847	180.4862	1861	269.5460	1875	358.6058	1889	87.6657	1903	176.7255	1917	265.7853
1848	161.1333	1862	250.1931	1876	339.2530	1890	68.3128	1904	157.3726	1918	246.4324
1849	141.7805	1863	230.8403	1877	319.9001	1891	48.9599	1905	138.0197	1919	227.0793
1850	122.4276	1864	211.4874	1878	300.5472	1892	29.6070	1906	118.6669	...	...
1851	103.0747	1865	192.1345	1879	281.1944	1893	10.2542	1907	99.3140	...	...
1852	83.7218	1866	172.7817	1880	261.8415	1894	350.9013	1908	79.9611	...	...
1853	64.3690	1867	153.4288	1881	242.4886	1895	331.5484	1909	60.6083	...	...

## Mean place of Rahu for every 10 days and for fractions of a Day.

Day.	Deg.	Days.	Deg.	Days.	Deg.	Days.	Deg.	Days.	Deg.	Days.	Deg.
1	0053	1	0530	10	5298	100	5.2984	190	10.0669	280	14.8355
2	0106	2	1060	20	10597	110	5.8282	200	10.5968	290	15.3654
3	0159	3	1589	30	15895	120	6.3581	210	11.1266	300	15.8952
4	0212	4	2119	40	26194	130	6.8879	220	11.6565	310	16.4250
5	0265	5	2649	50	26492	140	7.4177	230	12.1863	320	16.9549
6	0318	6	3179	60	31790	150	7.9476	240	12.7162	330	17.4847
7	0371	7	3709	70	37089	160	8.4774	250	13.2460	340	18.0145
8	0424	8	4239	80	42387	170	9.0073	260	13.7758	350	18.5444
9	0477	9	4768	90	47686	180	9.5371	270	14.3057	360	19.0742

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.								8
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25
July	11	21	29					8

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.			
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.		
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34	3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13	0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25		
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.) +	1	25				
July	11	21	29			8	59	25			

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.				
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.			
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13		
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16		8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.												
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29						8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.				Yogas.			Nakshatras.				Yogas.			Nakshatras.				Yogas.									
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.			
	d.	gh.	p.	d.	gh.	p.	d.	gh.	p.		
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34	3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13	0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16	8	58	0
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15		(☉'s Yoga Eqn.)	+	1	25		
July	11	21	29						8	59	25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14
	June	34	1	31
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		- 6	20	
	June	33	55	11
				1 19 47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	☾'s Anom.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	
(Table XI—B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	
(XI—C. <i>Supra</i> .) Add Yoga correction for A. D. 1910.		0	30	13	
(Table IX-L, p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.					
Sum - 18 gh. 15 p.		- 18	15		
	July	11	21	29	
					☉'s Yoga Eqn.) + 1 25
					8 59 25

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

## Geocentric (Indian) Longitudes of Sun and Major planets at Ujjain

Day of S. Yr.	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170			
☉'s Mean L.	357.0	6.9	16.7	26.6	36.4	46.3	56.1	66.0	75.9	85.7	95.6	105.4	115.3	125.1	135.0	144.8	154.7	164.6			
Corrn. for do.	+2.1	+2.0	+1.9	+1.7	+1.4	+1.1	+0.8	+0.4	+0.0	-0.3	-0.7	-1.1	-1.4	-1.6	-1.9	-2.0	-2.1	-2.2			
English date.	Ap 11	Ap 21	My 1	My 11	My 21	My 31	Je 10	Je 20	Je 30	Jul 10	Jul 20	Jul 30	Aug 9	Aug 19	Aug 29	S 8	S 18	S 28			
Tamil month.	Chit	Chit	Chit	Chit	Vaik	Vaik	Vaik	Ani	Ani	Ani	Adi	Adi	Adi	Avan	Avan	Avan	Pur	Pur			
Do. date.	1	11	21	31	10	20	30	9	19	29	7	17	27	6	16	26	5	15			
1880 Mars ...	67.5	73.2	79.1	84.9	90.9	96.9	103.0	108.9	115.1	121.3	127.4	133.8	140.1	146.4	152.8	159.2	165.7	172.2			
☉'s L. Merc. ...	341.5	343.2	353.7	8.8	26.7	45.7	64.5	83.1	99.1	111.5	116.6	111.5	105.6	108.6	119.7	135.6	151.8	169.7			
+4 Jup. ...	338.6	340.9	343.2	345.4	347.5	349.5	351.2	352.7	353.9	355.0	355.7	356.0	356.1	355.6	355.1	354.2	353.2	351.8			
Ven. ...	334.7	346.9	359.2	11.5	23.6	36.0	48.1	60.5	72.6	84.9	97.2	109.3	121.8	133.9	146.2	158.5	171.0	183.4			
Sat. ...	354.9	356.5	358.2	359.9	1.1	2.2	3.3	4.0	4.8	5.6	5.8	6.1	6.4	6.2	5.9	5.7	5.3	4.8			
1881 Mars ...	312.7	320.2	328.0	335.6	343.2	350.6	358.0	5.4	12.5	19.7	26.5	33.3	39.9	46.1	52.1	58.0	63.4	68.3			
☉'s L. Merc. ...	332.1	346.3	3.6	22.3	41.3	59.8	76.7	90.6	97.8	95.8	88.0	88.9	98.6	113.1	130.1	148.1	165.8	182.8			
+2 Jup. ...	6.2	8.6	11.0	13.4	15.8	18.2	20.5	22.6	24.6	26.5	28.2	29.7	30.9	31.8	32.4	32.7	32.6	32.3			
Ven. ...	30.3	29.3	24.3	17.2	13.9	13.9	17.4	23.5	31.0	39.9	49.8	60.1	70.6	82.2	93.4	104.9	116.8	128.5			
Sat. ...	7.9	9.2	10.5	11.9	13.2	14.4	15.6	16.6	17.5	18.6	19.1	19.4	20.3	20.4	20.4	20.5	19.9	19.4			
1882 Mars ...	84.3	89.0	94.1	99.3	104.7	110.3	116.0	121.8	127.7	133.7	139.8	146.0	152.4	158.6	165.0	171.6	178.1	184.8			
☉'s L. Merc. ...	340.7	358.9	17.8	36.4	53.9	68.9	78.1	77.9	70.5	69.2	77.4	91.2	108.0	125.9	144.1	161.4	177.2	189.2			
+1 Jup. ...	33.8	36.0	38.3	40.6	42.9	45.3	47.8	50.1	52.3	54.6	56.9	58.9	60.9	62.6	64.1	65.4	66.5	67.2			
Ven. ...	11.2	23.6	35.8	48.3	60.0	72.4	84.5	96.4	108.3	120.1	132.1	143.4	155.1	166.8	177.6	188.6	199.3	203.9			
Sat. ...	20.0	21.3	22.6	24.0	25.4	26.8	28.1	29.3	30.4	31.5	32.3	33.1	33.9	34.2	34.5	34.8	34.5	34.2			
Eng. Date.	Ap 12	Ap 22	My 2	My 12	My 22	Je 1	Je 11	Je 21	Jul 1	Jul 11	Jul 21	Jul 31	Aug 10	Aug 20	Aug 30	S 9	S 19	S 29			
1883 Mars ...	330.4	338.1	345.9	353.5	1.1	8.7	16.1	23.4	30.6	37.7	44.8	51.5	58.2	64.7	71.1	77.4	83.3	89.9			
☉'s L. Merc. ...	356.5	15.0	32.7	48.0	58.2	59.5	51.9	49.6	56.9	70.6	87.2	105.3	123.7	141.6	157.9	171.0	177.8	175.1			
+6 Jup. ...	62.1	63.8	65.6	67.5	69.7	71.8	74.1	76.4	78.7	81.0	83.3	85.6	87.9	89.9	91.8	93.8	95.6	97.6			
Ven. ...	318.9	330.8	342.8	354.8	6.7	18.6	30.6	42.8	54.9	67.0	79.9	92.4	103.4	115.7	128.0	140.4	153.8	165.2			
Sat. ...	32.7	34.0	35.3	36.6	37.9	39.3	40.7	41.9	43.1	44.4	45.4	46.4	47.4	48.0	48.6	49.1	49.1	49.0			
Eng. Date.	Ap 11	Ap 21	My 1	My 11	My 21	My 31	Je 10	Je 20	Je 30	Jul 10	Jul 20	Jul 30	Aug 9	Aug 19	Aug 29	S 8	S 18	S 28			
1884 Mars ...	105.4	107.6	111.9	115.9	120.6	125.4	130.8	136.3	141.8	147.6	153.5	159.7	165.8	172.2	178.7	185.1	191.9	198.7			
☉'s L. Merc. ...	9.9	25.7	37.3	40.8	34.3	30.1	35.4	48.0	64.3	82.6	101.3	119.5	136.5	150.9	160.2	160.3	152.9	150.0			
+4 Jup. ...	91.3	92.1	93.2	94.5	96.1	97.9	99.7	101.7	103.8	106.0	108.2	110.4	112.8	115.0	117.3	119.5	121.6	123.6			
Ven. ...	43.7	54.6	64.6	74.1	82.9	89.9	94.9	97.2	95.5	89.9	84.2	79.6	81.6	83.8	90.2	98.0	107.1	117.4			
Sat. ...	45.5	46.7	47.9	49.1	50.5	51.9	53.3	54.6	55.9	57.2	58.3	59.4	60.5	61.4	62.2	63.0	63.3	63.5			
1885 Mars ...	346.3	354.1	1.7	9.2	16.8	24.0	31.4	38.8	45.6	52.8	59.6	66.5	73.3	79.5	86.1	92.4	98.5	104.5			
☉'s L. Merc. ...	16.1	21.6	17.1	11.0	14.0	25.6	41.3	59.5	78.3	96.9	114.6	130.1	141.3	144.3	137.8	132.9	137.5	149.6			
+1 Jup. ...	122.5	122.3	122.5	122.8	123.5	124.5	125.8	127.2	128.9	130.8	132.8	134.8	136.9	139.1	141.2	143.4	145.6	147.8			
Ven. ...	353.0	5.5	17.8	30.1	42.4	53.9	66.8	79.1	91.3	103.5	115.9	128.0	140.1	152.1	164.2	176.2	188.3	200.3			
Sat. ...	58.6	59.6	60.7	61.8	63.1	64.4	65.7	67.0	68.4	69.8	71.2	72.5	73.8	74.7	75.6	76.5	77.1	77.7			
1886 Mars ...	134.0	134.0	135.3	137.3	140.0	143.7	148.0	152.7	157.6	163.0	168.6	174.6	180.5	186.8	193.2	199.9	206.5	213.4			
☉'s L. Merc. ...	0.1	352.7	353.6	3.3	18.5	36.2	55.1	73.9	92.1	108.6	121.2	126.8	122.5	116.0	115.6	128.7	143.4	160.4			
+1 Jup. ...	155.6	154.5	153.7	152.9	152.8	152.9	153.2	154.1	155.0	156.0	157.5	159.2	161.0	162.9	165.0	167.0	169.1	171.3			
Ven. ...	313.8	322.3	331.7	342.0	353.1	3.7	14.7	26.1	37.8	49.6	61.3	73.2	85.1	97.1	109.3	121.5	133.6	145.9			
Sat. ...	71.9	72.8	73.7	74.6	75.8	77.0	78.1	79.4	80.7	82.1	83.5	84.8	86.1	87.2	88.3	89.4	90.3	91.1			
Eng. Date.	Ap 12	Ap 22	My 2	My 12	My 22	Je 1	Je 11	Je 21	Jul 1	Jul 11	Jul 21	Jul 31	Aug 10	Aug 20	Aug 30	S 9	S 19	S 29			
1887 Mars ...	2.4	9.7	17.3	24.6	31.9	39.0	46.1	53.2	60.2	66.9	73.8	80.8	87.0	93.5	99.9	106.1	112.4	118.8			
☉'s L. Merc. ...	333.9	343.1	357.3	14.8	33.6	52.7	70.9	86.0	101.1	108.4	105.5	98.3	99.4	109.3	123.9	140.7	158.5	176.1			
+6 Jup. ...	189.4	188.1	186.8	185.5	184.5	183.6	183.1	182.9	183.0	183.3	184.0	184.9	186.2	187.6	189.4	191.2	193.2	195.1			
Ven. ...	30.4	42.3	54.4	66.2	77.3	89.1	100.3	111.3	121.8	131.8	141.3	149.7	156.6	161.5	163.9	162.1	156.6	150.2			
Sat. ...	85.4	86.1	86.8	87.5	88.5	89.6	90.7	92.0	93.3	94.6	95.9	97.2	98.5	99.8	101.0	102.2	103.2	104.2			
Eng. Date.	Ap 11	Ap 21	My 1	My 11	My 21	My 31	Je 10	Je 20	Je 30	Jul 10	Jul 20	Jul 30	Aug 9	Aug 19	Aug 29	S 8	S 18	S 28			
1888 Mars ...	178.0	174.2	170.2	168.3	169.6	170.5	173.9	175.7	179.4	183.4	188.3	193.6	199.2	205.0	211.1	217.4	224.2	230.8			
☉'s L. Merc. ...	335.1	351.9	10.9	29.2	48.0	65.5	80.0	88.9	88.3	80.9	79.9	88.2	102.1	118.7	136.8	154.6	171.8	187.3			
+3 Jup. ...	223.3	222.4	221.3	220.6	218.9	217.5	216.3	215.2	214.4	213.6	213.3	213.4	213.8	214.6	215.7	216.3	218.2	219.9			
Ven. ...	335.2	347.5	359.7	12.2	24.2	36.5	48.5	60.0	73.1	85.6	97.7	110.0	122.4	134.4	146.9	159.0	171.5	183.9			
Sat. ...	99.2	99.6	100.0	100.5	101.3	102.2	103.1	104.3	105.5	106.8	108.1	109.4	110.6	112.0	113.3	114.6	115.7	116.8			
1889 Mars ...	16.9	24.2	31.4	38.6	45.6	52.4	59.4	66.2	73.0	79.6	86.4	92.8	99.4	105.8	112.2	118.7	124.8	131.1			
☉'s L. Merc. ...	347.1	6.8	24.6	42.4	57.8	68.3	70.5	63.3	60.2	67.1	80.1	96.4	114.5	132.7	150.4	166.9	179.8	186.9			
+1 Jup. ...	255.7	255.9	255.7	255.3	254.7	253.7	252.5	251.2	249.9	248.6	247.4	246.4	245.7	245.5	245.4	245.6	246.2	247.2			
Ven. ...	28.2	25.8	20.2	14.1	11.0	12.0	16.2	22.6	30.7	40.0	51.2	60.2	71.1	82.1	93.7	105.2	117.1	129.0			
Sat. ...	113.2	113.4	113.4	113.4	114.1	114.8	115.5	116.5	117.5	118.3	119.8	121.1	122.4	123.7	125.0	126.4	127.6	128.7			
Mesh. Vrsh. Mith. Kat. Sim. Kan. Tul. Vrsch. Dhan. Mak. Kum. Min. Asv. Bhar. Krit. Rohi. Mrig. Ardh. Punar. Push. Asles.	30	60	90	120	150	180	210	240	270	300	330	360	13.3	26.7	40.0	53.3	66.7	80.0	93.3	106.7	120.0



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

## Geocentric (Indian) Longitudes of sun and Major planets at Ujjain

Day of S. Yr.		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
☉'s mean L.	Corrn. for do.	357-0	6-9	16-7	26-6	36-4	46-3	56-1	66-0	75-9	85-7	95-6	105-4	115-3	125-1	135-0	144-8	154-7	164-6
English date.		+2-1	+2-0	+1-9	+1-7	+1-4	+1-1	+0-8	+0-4	+0-0	-0-3	-0-7	-1-1	-1-4	-1-6	-1-9	-2-0	-2-1	-2-2
Tamil month.		Ap 12	Ap 22	My 2	My 12	My 22	Je 1	Je 11	Je 21	Jl 1	Jl 11	Jl 21	Jl 31	Au 10	Au 20	Au 30	S 9	S 19	S 29
Do. date.		Chit	Chit	Chit	Chit	Vaik	Vaik	Vaik	Ani	Ani	Ani	Adi	Adi	Adi	Avan	Avan	Avan	Pur	Pur
		1	11	21	31	10	20	30	9	19	29	7	17	27	6	16	26	5	15
1890	Mars	230-0	231-0	230-7	229-6	227-1	224-3	221-2	219-1	218-1	218-6	220-2	222-9	226-5	230-8	235-8	241-2	247-3	253-2
☉'s L. Merc.		3-2	21-1	36-9	48-4	51-4	45-1	40-9	46-5	59-1	75-5	93-6	112-2	130-3	147-1	161-3	169-8	169-4	161-5
+8	Jup.	286-1	287-3	288-4	289-1	289-5	289-6	289-3	288-7	287-8	286-8	285-4	284-0	282-7	281-9	280-7	279-6	278-1	279-0
	Ven.	13-1	25-5	37-5	50-0	62-1	74-3	86-2	98-3	110-3	121-9	133-5	145-1	156-6	167-9	179-3	189-9	200-2	209-8
	Sat.	127-0	126-6	126-5	126-6	127-0	127-4	127-9	128-8	129-7	130-6	131-7	132-8	134-0	135-2	136-5	137-8	139-1	140-4
1891	Mars	31-1	38-8	45-8	52-5	59-3	66-1	72-7	79-3	85-7	92-3	98-8	105-2	111-7	118-2	124-6	130-8	137-1	143-5
☉'s L. Merc.		14-5	25-7	32-6	27-7	21-6	25-3	36-9	52-8	70-7	89-5	108-0	125-0	140-8	151-4	153-7	146-9	142-6	147-5
+6	Jup.	314-7	316-7	318-5	320-2	321-6	322-9	324-1	324-6	324-9	324-9	324-5	323-8	322-8	321-5	320-3	319-0	317-6	316-4
	Ven.	319-5	331-4	343-2	355-2	7-3	19-2	31-3	43-4	55-5	67-6	79-9	91-8	103-6	116-3	128-6	141-0	153-4	165-8
	Sat.	140-8	140-4	140-0	139-6	139-8	140-0	140-2	140-8	141-5	142-2	143-2	144-3	145-4	146-6	147-8	149-1	150-4	151-6
Eng. Date.		Ap 11	Ap 21	My 1	My 11	My 21	My 31	Je 10	Je 20	Je 30	Jl 10	Jl 20	Jl 30	Au 9	Au 19	Au 29	S 8	S 18	S 28
1892	Mars	263-3	268-6	273-7	278-7	283-0	287-1	290-3	294-2	294-2	294-7	293-5	291-0	288-7	286-2	284-6	284-6	286-4	289-1
☉'s L. Merc.		13-0	10-4	3-2	4-5	-14-5	29-6	47-5	66-6	85-1	103-1	119-4	131-7	137-0	132-1	125-8	128-4	139-1	153-8
+3	Jup.	342-4	344-8	347-1	349-3	351-5	353-5	355-4	357-1	358-5	359-8	0-3	0-8	1-3	1-2	0-7	0-0	359-0	357-6
	Ven.	44-0	54-6	64-7	73-8	82-2	88-9	93-6	94-8	91-9	85-7	80-1	77-2	78-5	82-7	89-3	97-9	107-2	117-1
	Sat.	154-3	153-7	153-2	152-7	152-6	152-5	152-5	152-9	153-3	153-8	154-8	155-7	156-6	157-7	158-8	160-0	161-2	162-5
1893	Mars	46-3	52-8	59-3	65-8	72-1	78-5	85-0	91-4	97-8	104-1	110-5	116-9	123-3	129-5	136-0	142-3	148-9	155-0
☉'s L. Merc.		345-7	344-4	352-7	7-0	24-3	43-0	61-9	79-4	97-4	111-2	118-6	116-3	109-0	109-4	118-6	132-7	149-3	167-1
+1	Jup.	9-9	12-3	14-7	17-2	19-5	21-9	24-4	26-5	28-5	30-6	32-4	34-0	35-3	36-4	37-0	37-6	37-7	37-5
	Ven.	352-6	6-1	18-4	30-7	43-0	55-3	67-5	79-7	91-9	104-1	116-5	128-6	140-6	152-7	164-6	176-8	188-9	200-7
	Sat.	167-7	166-9	166-2	165-7	165-2	164-2	164-7	164-9	165-1	165-4	166-2	166-9	167-6	168-6	169-6	170-7	171-9	173-1
Eng. Date.		Ap 12	Ap 22	My 2	My 12	My 22	Je 1	Je 11	Je 21	Jl 1	Jl 11	Jl 21	Jl 31	Au 10	Au 20	Au 30	S 9	S 19	S 29
1894	Mars	286-5	293-9	300-5	307-4	314-1	321-0	327-8	333-9	340-1	345-7	351-4	356-1	0-5	4-0	6-3	7-7	7-5	6-1
☉'s L. Merc.		332-6	345-8	2-8	21-5	40-3	58-3	76-6	91-1	99-5	99-2	91-5	90-4	98-8	112-7	129-5	147-1	165-0	182-2
+8	Jup.	37-8	40-0	42-3	44-6	46-9	49-3	51-6	54-0	56-3	58-6	60-9	62-9	64-8	66-6	68-3	69-8	70-9	71-8
	Ven.	314-3	323-0	332-8	343-2	353-8	5-0	16-4	27-6	39-1	51-3	63-0	74-8	86-8	98-7	110-9	123-2	135-5	147-6
	Sat.	180-4	180-0	179-6	179-1	178-4	177-6	176-8	176-8	176-8	176-8	177-4	178-0	178-5	179-4	180-4	181-4	182-5	183-6
1895	Mars	61-6	67-5	73-6	79-6	85-8	91-8	98-0	104-2	110-3	116-7	122-7	129-0	135-4	141-7	148-1	154-6	161-0	167-6
☉'s L. Merc.		341-6	358-2	17-0	35-8	53-6	69-0	79-7	81-2	74-1	71-2	78-0	90-8	107-3	125-1	143-3	160-7	176-8	189-7
+5	Jup.	65-9	67-4	69-3	71-1	73-2	75-3	77-6	79-9	82-1	84-4	86-7	89-0	91-2	93-4	95-4	97-4	99-2	100-8
	Ven.	30-9	42-7	54-9	66-3	78-0	89-4	100-4	111-4	121-7	131-7	141-0	149-2	155-8	160-2	161-3	158-4	152-1	147-1
	Sat.	192-9	192-1	191-3	190-6	190-0	189-4	188-8	188-6	188-4	188-1	188-4	188-7	189-1	189-8	190-7	191-6	192-2	193-7
Eng. Date.		Ap 11	Ap 21	My 1	My 11	My 21	My 31	Je 10	Je 20	Je 30	Jl 10	Jl 20	Jl 30	Au 9	Au 19	Au 29	S 8	S 18	S 28
1896	Mars	305-5	313-0	320-6	328-2	335-8	343-1	350-5	357-8	4-8	11-9	18-4	25-0	31-3	37-3	43-2	49-1	53-2	57-4
☉'s L. Merc.		363-9	12-1	30-6	46-8	58-6	62-9	58-7	51-9	56-5	68-8	85-0	102-8	121-2	139-1	156-0	170-1	179-1	179-1
+3	Jup.	95-3	96-0	97-0	98-3	99-8	101-4	103-2	105-2	107-3	109-4	111-6	113-8	115-9	118-3	120-5	122-8	124-9	127-0
	Ven.	335-8	348-1	0-3	12-8	24-8	37-1	49-2	61-6	73-8	86-2	98-3	110-6	122-8	135-0	147-5	159-6	172-1	184-5
	Sat.	205-2	203-7	202-1	200-6	199-9	199-2	198-4	198-1	197-7	197-4	197-6	197-7	198-0	198-6	199-3	200-0	201-0	202-1
1897	Mars	78-3	82-7	87-9	93-4	99-0	104-7	110-7	116-6	122-6	128-3	134-6	141-1	147-3	153-6	160-1	166-5	173-0	179-6
☉'s L. Merc.		8-2	24-1	37-1	43-5	39-3	33-0	34-7	46-7	62-2	79-9	98-7	116-9	134-5	149-7	160-7	163-6	157-0	152-1
+0	Jup.	126-8	126-6	126-6	126-8	127-3	128-3	129-4	130-8	132-5	134-1	136-0	138-1	140-9	142-3	144-5	146-7	148-9	151-0
	Ven.	15-7	10-5	3-9	1-0	1-3	4-9	11-3	19-3	28-6	38-8	49-4	60-6	72-1	83-4	95-4	107-5	119-6	131-5
	Sat.	217-0	216-4	215-7	215-0	214-2	213-5	212-7	212-1	211-6	211-1	211-1	211-0	210-9	211-3	211-8	212-1	213-0	213-8
Eng. Date.		Ap 12	Ap 22	My 2	My 12	My 22	Je 1	Je 11	Je 21	Jl 1	Jl 11	Jl 21	Jl 31	Au 10	Au 20	Au 30	S 9	S 19	S 29
1898	Mars	323-7	331-5	339-2	346-9	354-6	2-0	9-5	16-9	24-1	31-2	38-1	44-9	51-4	58-1	64-3	70-5	76-4	82-0
☉'s L. Merc.		16-9	24-0	21-2	15-2	15-4	25-8	41-0	58-8	77-4	95-2	114-0	130-0	142-2	146-9	141-6	135-6	138-6	149-3
+8	Jup.	160-1	158-9	158-1	157-4	156-9	156-9	157-1	157-8	158-8	159-8	161-2	162-8	164-4	166-4	168-3	170-4	172-5	174-6
	Ven.	11-7	24-1	36-7	49-0	61-3	73-9	86-3	98-5	110-5	123-3	135-4	147-3	159-2	171-0	182-1	192-9	203-6	213-2
	Sat.	228-6	228-0	227-3	226-8	226-0	225-3	224-6	224-0	223-5	222-8	222-4	222-1	221-8	222-1	222-3	222-6	223-4	224-1
1899	Mars	96-4	100-3	104-6	110-2	114-3	119-5	124-9	130-5	136-4	142-3	148-1	154-4	160-6	166-9	173-3	179-7	186-6	193-2
☉'s L. Merc.		3-6	35-3	35-2	3-7	18-0	35-5	54-1	73-2	91-3	108-2	121-9	128-8	126-4	119-0	119-6	128-7	143-0	159-6
+5	Jup.	194-1	192-8	191-5	190-3	189-2	188-2	187-5	187-2	187-1	187-2	187-8	188-7	189-8	191-2	192-8	194-5	196-4	198-4
	Ven.	319-8	331-9	343-7	355-7	7-6	19-7	31-7	43-9	55-5	68-1	80-4	92-3	104-7</					

mean Sunrise for every ten days from A.D. 1890 to A.D. 1899.

180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	
174.4 -2.2 O 9 Pur 25	184.3 -2.1 O 19 Aipp 4	194.1 -1.9 O 29 Aipp 14	204.0 -1.7 N 8 Aipp 24	213.8 -1.5 N 18 Kart 4	223.7 -1.2 N 28 Kart 14	233.5 -0.9 D 8 Kart 24	243.4 -0.5 D 18 Marg 5	253.3 -0.1 D 28 Marg 15	263.1 +0.3 Ja 7 Marg 25	273.0 +0.6 Ja 17 Tai 5	282.8 +1.0 Ja 27 Tai 15	292.7 +1.3 F 6 Tai 25	302.5 +1.6 F 16 Masi 6	312.4 +1.8 F 26 Masi 16	322.2 +2.0 Mr 7,8 Masi 26	332.1 +2.1 17,18 Pang 6	342.0 +2.2 27,28 Pang 16	351.8 +2.2 Ap 6,7 Pang 26	
259.6	266.3	273.1	280.2	287.3	294.5	302.0	309.1	316.6	91	324.0	331.2	338.6	345.8	353.1	0.3	7.5	14.6	21.6	28.6
159.6	166.9	180.0	195.8	213.1	230.3	246.7	261.5	272.3	275.3	268.7	263.8	268.0	279.7	295.4	313.0	331.3	349.5	6.4	
279.2	280.0	280.6	281.7	283.1	284.6	286.4	288.5	290.6	292.8	295.0	297.4	299.8	302.1	304.5	306.9	309.2	311.6	313.7	
219.0	226.6	232.6	235.8	235.3	231.3	225.1	221.1	220.9	224.4	230.5	238.4	247.5	257.5	267.9	279.0	290.3	301.8	313.5	
141.6	142.7	143.7	144.7	145.3	145.9	146.5	146.6	146.7	146.8	146.4	146.0	145.5	144.8	144.0	143.2	142.4	141.6	140.9	
149.8	156.2	162.3	168.7	174.9	181.2	187.5	193.7	199.9	92	206.2	212.3	218.6	224.6	230.9	237.0	242.9	249.0	254.7	260.6
159.4	175.0	192.1	209.4	226.4	241.9	254.0	259.5	255.4	248.0	249.6	259.5	273.9	290.9	308.9	327.0	344.5	359.7	10.5	
315.3	314.4	314.4	314.3	314.7	315.4	316.3	317.6	319.2	321.0	322.8	324.8	327.0	329.3	331.7	334.1	336.5	338.9	341.3	
178.3	190.8	203.2	215.8	228.3	240.9	253.4	266.1	278.6	291.1	303.5	315.8	327.9	340.3	352.3	3.9	15.8	27.5	38.4	
152.8	153.9	155.0	156.1	157.0	157.8	158.6	158.9	159.2	159.5	159.3	159.0	158.8	158.2	157.5	156.8	156.1	155.3	154.6	
O 8	O 18	O 28	N 7	N 17	N 27	D 7	D 17	D 27	Ja 6	Ja 16	Ja 26	F 5	F 15	F 25	Mr 7	Mr 17	Mr 27	Ap 6	
292.6	296.9	301.7	307.1	312.8	318.7	325.0	331.1	337.5	93	344.0	350.6	357.0	3.7	10.2	16.9	23.4	29.9	36.4	43.1
170.8	188.4	205.6	221.7	235.2	242.8	241.7	234.3	232.0	239.9	253.2	266.9	284.4	302.2	320.0	336.4	350.1	357.6	349.2	
356.4	354.3	353.7	352.5	351.1	351.0	350.8	350.8	351.4	352.1	353.2	354.5	356.1	358.0	359.8	2.0	4.1	6.5	8.8	
127.8	139.1	150.3	162.0	173.9	185.9	198.1	210.3	222.7	235.0	247.5	259.9	272.5	285.0	297.6	309.8	322.4	334.8	346.2	
163.8	165.0	166.1	167.2	168.2	169.2	170.1	170.6	171.2	171.7	171.7	171.7	171.7	171.2	170.7	170.1	169.4	168.7	167.9	
161.8	168.1	174.4	181.1	187.5	194.0	200.6	207.2	213.9	94	220.6	227.4	234.0	241.0	247.7	254.4	261.5	268.5	275.9	282.4
184.7	201.3	215.3	225.8	227.3	220.6	215.9	221.2	232.7	248.7	265.5	283.1	300.8	316.7	329.7	336.3	333.0	326.0	327.4	
36.8	35.8	34.8	33.6	32.3	30.9	29.7	28.6	27.8	27.3	27.1	27.4	27.8	28.8	30.0	31.4	32.9	34.7	36.6	
212.5	224.6	236.1	247.5	258.6	269.6	279.9	289.7	298.4	305.5	311.0	312.9	311.1	304.7	299.7	298.6	298.2	302.6	309.3	
174.3	175.5	176.7	178.0	179.0	180.0	181.0	181.7	182.4	183.1	183.4	183.7	183.9	183.6	183.3	183.0	182.3	181.6	180.8	
O 9	O 19	O 29	N 8	N 18	N 28	D 8	D 18	D 28	Ja 7	Ja 17	Ja 27	F 6	F 16	F 26	Mr 7,8	17,18	27,28	Ap 6,7	
3.8	1.0	358.6	357.4	357.0	358.2	0.1	3.1	6.7	95	10.4	15.0	19.8	24.9	30.1	35.5	41.2	46.8	52.9	58.5
197.2	208.6	212.1	206.7	200.3	203.4	214.2	229.1	245.9	263.4	280.8	297.2	310.5	318.2	316.6	308.9	309.0	318.2	332.4	
72.4	72.6	72.3	72.3	71.5	70.3	68.0	67.7	66.3	65.1	64.0	63.0	62.3	62.1	62.1	62.5	63.0	64.0	65.2	
159.9	172.4	184.8	197.3	209.9	222.0	235.1	247.7	260.4	273.0	285.6	298.2	310.9	323.1	336.0	348.3	0.5	12.7	24.9	
184.8	186.0	187.2	188.4	189.5	190.6	191.7	192.6	193.4	194.2	194.6	195.0	195.3	195.2	195.1	195.0	194.5	194.0	193.4	
174.2	180.6	187.3	194.0	200.8	207.6	214.5	221.4	228.4	96	235.4	242.5	249.8	257.4	264.3	271.8	279.1	286.6	294.2	301.6
196.2	193.4	185.8	186.0	194.8	208.5	224.8	242.3	259.6	276.1	290.4	299.9	300.8	293.3	290.1	296.6	309.8	326.4	344.5	
102.4	103.7	104.5	105.3	105.8	105.8	105.4	104.7	103.8	102.7	101.4	99.9	98.6	97.1	96.4	95.7	95.3	95.1	95.4	
144.6	146.3	151.1	158.0	166.2	176.1	186.2	197.4	208.7	220.0	232.1	243.8	255.9	268.2	280.4	292.7	304.9	317.2	329.8	
194.8	195.9	197.0	198.2	199.4	200.6	201.8	202.7	203.6	204.6	205.2	205.8	206.3	206.4	206.5	206.5	206.1	205.7	205.3	
O 8	O 18	O 28	N 7	N 17	N 27	D 7	D 17	D 27	Ja 6	Ja 16	Ja 26	F 5	F 15	F 25	Mr 7	Mr 17	Mr 27	Ap 6	
60.9	63.7	65.3	65.9	65.2	63.4	60.3	56.9	53.9	97	51.7	50.5	51.0	52.4	54.4	57.6	61.2	65.5	70.0	74.8
171.3	168.9	175.7	188.4	204.2	221.4	238.5	255.5	270.4	281.2	284.7	278.5	273.2	277.0	288.5	304.0	321.9	340.4	358.7	
128.9	130.6	132.2	133.7	135.0	135.9	136.6	137.0	137.0	136.6	136.1	135.2	134.4	132.9	131.6	130.3	129.1	128.0	127.2	
196.8	209.2	221.6	233.9	246.0	258.4	270.6	282.6	294.1	305.4	316.4	327.2	337.9	347.6	356.8	5.2	11.9	16.0	17.0	
203.2	204.4	205.6	206.7	207.9	209.1	210.3	211.5	212.8	214.1	214.6	215.2	215.7	216.0	216.2	216.6	216.6	216.7	216.8	
186.5	193.2	199.9	206.9	213.8	220.9	228.0	235.3	242.6	98	250.0	257.3	264.9	272.5	280.2	287.7	295.7	303.4	311.1	319.0
156.5	168.1	183.3	200.3	217.7	234.6	250.2	262.5	268.3	264.5	257.4	258.4	268.1	282.4	299.6	317.6	336.0	353.6	9.3	
153.3	155.4	157.3	159.2	161.1	162.7	164.3	165.4	166.3	167.0	167.5	167.6	167.3	166.6	165.7	164.7	163.6	162.7	160.9	
143.7	155.8	168.0	180.2	192.3	204.6	216.8	229.0	241.3	253.8	265.4	277.7	289.7	302.2	314.7	327.4	339.4	351.5	4.3	
214.8	215.9	217.0	218.0	219.2	220.4	221.5	222.6	223.8	224.9	225.8	226.6	227.4	227.8	228.3	228.8	228.8	228.7	228.8	
O 9	O 19	O 29	N 8	N 18	N 28	D 8	D 18	D 28	Ja 7	Ja 17	Ja 27	F 6	F 16	F 26	Mr 8	Mr 18	Mr 28	Ap 7	
87.2	91.0	96.4	100.3	103.5	106.0	107.5	107.7	106.8	99	104.7	101.4	97.6	93.8	90.9	89.1	88.1	90.0	92.0	94.9
164.1	181.0	198.5	215.6	231.4	244.8	252.1	250.3	242.2	240.3	249.8	263.2	279.6	297.7	315.5	333.1	348.1	0.8	5.4	
176.8	179.1	181.2	183.7	185.6	187.5	189.5	191.2	192.8	194.1	195.5	196.4	197.3	197.6	197.6	197.4	196.8	195.8	194.7	
222.4	230.4	236.2	239.4	239.1	234.6	227.7	223.3	222.5	225.0	230.5	238.0	246.7	256.2	266.7	277.4	288.5	300.0	311.5	
224.9	225.9	226.9	228.0	229.1	230.2	231.4	232.6	233.8	234.9	235.8	236.8	237.7	238.4	239.0	239.6	239.7	239.9	240.0	
200.1	207.0	214.0	221.2	228.3	235.6	243.0	250.5	258.0	1900	265.5	273.3	281.0	288.9	296.8	304.6	312.5	320.5	328.3	336.1
177.3	194.7	211.2	225.8	235.0	236.1	228.8	225.0	230.5	242.2	258.3	275.6	293.7	310.9	327.3	340.3	346.7	343.3	336.2	
200.2	202.4	204.6	206.8	209.0	211.2	213.5	215.7	217.7	219.6	221.4	223.2	224.7	225.9	227.0	228.0	228.7	228.4	228.3	
178.8	191.3	203.7																	

Mag. P.Phil. U.Phil. Hast. Chit. Svati. Visa. Anur. Jyesh. Mula. P.Ash. U.Ash. Srav. Dan. Satab. P.Bhad. U.Bhad. Nevati  
 133.3 146.7 160.0 173.3 186.7 200.0 213.3 226.7 240.0 253.3 266.7 280.0 293.3 306.7 320.0 333.3 346.7 360.0

## Geocentric (Indian) Longitudes of Sun and Major planets at Ujjain

Day of S. Yr.	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170
☉'s Mean L. Corr. for do. English. date. Tamil month. Do. date.	357.0 +2.1 Ap 12 Chit 1	6.9 +2.0 Ap 22 Chit 11	16.7 +1.9 My 2 Chit 21	26.6 +1.7 My 12 Chit 31	36.4 +1.4 My 22 Vaik 10	46.3 +1.1 Je 1 Vaik 20	56.1 +0.8 Je 11 Vaik 30	66.0 +0.4 Je 21 Ani 9	75.9 +0.0 Jl 1 Ani 19	85.7 -0.3 Jl 11 Ani 29	95.6 -0.7 Jl 21 Adi 7	105.4 -1.1 Jl 31 Adi 17	115.3 -1.4 Au 10 Adi 27	125.1 -1.6 Au 20 Avan 6	135.0 -1.9 Au 30 Avan 16	144.8 -2.0 S 9 Avan 26	154.7 -2.1 S 19 Pur 5	164.6 -2.2 S 29 Pur 15
1900 Mars ...	340.1	347.8	355.5	3.2	10.8	18.2	25.4	32.7	39.8	47.0	53.9	60.9	67.3	73.8	80.4	86.6	92.8	98.9
☉'s L. Merc. ...	335.7	342.4	355.5	12.1	30.7	49.7	68.3	85.9	100.6	109.9	109.9	102.4	100.6	108.2	121.7	135.0	155.5	173.4
+2 Jup. ...	227.8	227.0	226.1	225.0	223.7	222.3	221.0	219.9	218.9	218.1	217.6	217.5	217.8	218.4	219.3	220.3	221.6	223.1
Ven. ...	44.1	54.5	64.5	73.7	81.7	88.0	92.0	92.5	88.6	82.3	76.7	74.9	77.0	81.8	89.0	97.4	106.9	116.9
Sat. ...	251.1	250.8	250.6	250.3	249.6	248.8	248.2	247.4	246.7	246.0	245.4	244.9	244.3	244.2	244.0	243.9	244.3	244.8
1901 Mars ...	121.4	122.8	124.9	128.0	131.8	136.0	140.7	145.7	151.0	156.5	162.2	168.4	174.4	180.7	187.2	193.8	200.4	207.2
☉'s L. Merc. ...	333.0	349.2	7.3	26.3	45.3	63.1	78.9	89.6	92.5	85.7	81.8	87.5	100.2	116.1	134.0	151.0	169.3	185.5
+0 Jup. ...	259.9	260.3	260.3	260.2	259.9	259.4	257.6	256.1	254.9	253.6	252.5	251.4	250.6	250.0	249.9	250.0	250.4	251.2
Ven. ...	354.1	6.5	18.9	31.2	43.6	55.8	68.1	80.2	92.4	104.6	117.0	128.9	141.2	153.2	165.2	177.1	189.4	201.2
Sat. ...	262.1	262.1	262.0	261.9	261.3	260.8	260.2	259.5	258.9	258.1	257.0	255.9	254.9	255.0	255.0	255.1	255.2	255.4
Eng. Date.	Ap 13	Ap 23	My 3	My 13	My 23	Je 2	Je 12	Je 22	Jl 2	Jl 12	Jl 22	Au 1	Au 11	Au 21	Au 31	S 10	S 20	S 30
1902 Mars ...	356.4	3.9	11.5	18.9	26.2	33.6	40.7	47.8	54.9	61.8	68.5	75.2	81.9	88.4	94.8	101.0	107.3	113.4
☉'s L. Merc. ...	346.3	4.8	23.6	41.8	57.9	69.6	73.9	68.3	62.9	68.8	79.7	95.6	113.5	131.7	149.7	166.1	180.0	188.6
+7 Jup. ...	239.9	231.3	222.4	213.4	204.1	194.5	184.2	173.0	162.9	152.8	142.7	132.6	122.5	112.4	102.3	92.2	82.1	72.0
Ven. ...	313.5	322.5	332.4	342.9	353.8	4.9	16.3	27.8	39.5	51.3	63.2	74.8	87.0	98.9	111.1	123.3	135.5	147.8
Sat. ...	273.0	273.1	273.3	273.3	273.0	272.6	272.2	271.5	270.7	270.1	269.3	268.6	267.7	267.2	266.8	266.3	266.3	266.2
1903 Mars ...	157.8	155.4	154.7	154.7	156.2	158.5	161.4	165.4	169.9	174.8	179.9	185.6	191.3	197.6	203.9	210.2	217.0	223.9
☉'s L. Merc. ...	0.9	18.8	35.1	48.3	54.4	50.5	43.8	46.7	57.7	73.0	90.8	109.4	127.5	144.9	160.1	170.4	172.9	166.1
+5 Jup. ...	318.4	320.4	322.4	324.3	325.9	327.3	328.4	329.2	329.5	329.7	329.7	329.2	328.3	327.0	325.8	324.5	323.1	321.9
Ven. ...	31.3	43.6	55.2	66.9	78.6	90.0	100.8	111.6	121.9	131.7	140.8	148.8	155.0	158.2	158.9	155.1	148.5	143.3
Sat. ...	283.8	284.1	284.5	284.8	284.7	284.5	284.2	283.6	282.9	282.3	281.5	281.8	280.1	279.4	278.8	278.1	277.9	277.8
Eng. Date.	Ap 12	Ap 22	My 2	My 12	My 22	Je 1	Je 11	Je 21	Jl 1	Jl 11	Jl 21	Jl 31	Au 10	Au 20	Au 30	S 9	S 19	S 29
1904 Mars ...	11.2	18.6	25.8	33.1	40.3	47.3	54.2	61.2	67.9	74.5	81.4	88.0	94.5	101.1	107.4	113.7	120.0	126.3
☉'s L. Merc. ...	12.7	26.7	34.7	32.9	25.5	25.9	35.7	50.6	67.9	86.6	105.1	122.9	139.1	151.3	156.7	151.9	145.3	147.5
+2 Jup. ...	346.1	348.5	350.9	353.1	355.3	357.4	359.4	1.1	2.7	4.1	5.2	5.9	6.3	6.3	5.9	5.3	4.4	3.2
Ven. ...	336.3	348.4	0.7	13.1	25.3	37.6	49.3	62.1	74.3	86.7	98.8	111.1	123.3	135.5	148.0	160.1	172.6	185.0
Sat. ...	294.6	295.2	295.7	296.2	296.3	296.2	296.3	296.1	296.0	294.8	293.4	293.0	292.6	291.8	291.1	290.4	290.0	289.5
1905 Mars ...	211.5	209.4	206.9	203.7	200.4	198.2	197.0	198.1	198.8	201.3	204.6	208.8	213.6	218.7	224.5	230.5	236.5	243.2
☉'s L. Merc. ...	14.8	15.4	8.1	5.1	13.5	27.6	44.8	63.3	82.2	100.5	117.5	131.2	139.2	137.4	129.7	129.2	137.8	151.7
+0 Jup. ...	13.7	16.0	18.4	20.8	23.3	25.7	28.0	30.2	32.4	34.2	36.3	37.9	39.4	40.5	41.4	42.2	42.5	42.3
Ven. ...	23.1	18.9	12.8	8.1	6.4	8.9	14.2	21.7	30.2	39.8	50.0	60.7	71.6	83.0	94.6	106.3	118.0	130.1
Sat. ...	305.6	306.3	307.1	307.7	308.0	308.2	308.5	308.2	308.0	307.6	307.0	306.3	305.6	304.8	304.1	303.2	302.8	302.3
Eng. Date.	Ap 13	Ap 23	My 3	My 13	My 23	Je 2	Je 12	Je 22	Jl 2	Jl 12	Jl 22	Au 1	Au 11	Au 21	Au 31	S 10	S 20	S 30
1906 Mars ...	26.5	33.4	40.4	47.3	54.4	61.0	67.8	74.7	81.1	87.6	94.2	100.6	107.2	113.5	120.0	126.3	132.5	138.9
☉'s L. Merc. ...	348.9	346.5	353.3	6.6	23.3	42.0	60.9	79.5	96.8	111.5	120.4	120.2	112.7	110.9	118.8	132.1	148.5	166.1
+7 Jup. ...	41.6	43.8	45.9	48.2	50.5	52.9	55.2	57.5	59.9	62.2	64.5	66.5	68.5	70.2	71.9	73.6	75.0	76.0
Ven. ...	14.2	26.6	38.8	51.1	63.2	75.2	87.2	99.0	110.8	122.6	134.3	146.0	157.5	168.4	179.4	190.0	200.1	209.3
Sat. ...	316.6	317.5	318.3	319.3	319.7	320.2	320.7	320.6	320.6	320.5	320.0	319.4	318.8	318.0	317.3	316.5	315.8	315.1
1907 Mars ...	252.3	256.3	259.9	263.1	265.8	266.9	267.5	266.0	263.7	261.8	259.0	257.5	256.4	257.8	259.7	263.0	267.0	271.5
☉'s L. Merc. ...	332.2	344.1	0.3	18.4	37.3	56.5	74.3	89.8	100.5	102.9	96.2	92.2	98.5	110.6	126.8	144.3	162.2	179.4
+4 Jup. ...	69.7	71.2	72.8	74.7	76.7	78.8	81.0	83.2	85.6	87.9	90.1	92.5	94.7	97.0	99.0	101.0	102.8	104.6
Ven. ...	320.1	332.1	344.2	356.2	8.1	20.2	32.3	44.5	57.2	68.7	80.7	92.6	105.2	117.3	129.8	142.0	154.2	166.8
Sat. ...	327.7	328.7	329.8	330.8	331.6	332.3	333.0	333.1	333.3	333.5	333.2	332.8	332.5	331.8	331.0	330.2	329.4	328.7
Eng. Date.	Ap 12	Ap 22	My 2	My 12	My 22	Je 1	Je 11	Je 21	Jl 1	Jl 11	Jl 21	Jl 31	Au 10	Au 20	Au 30	S 9	S 19	S 29
1908 Mars ...	40.5	47.3	54.0	60.5	67.0	73.6	80.0	86.6	92.9	99.4	105.8	112.2	118.7	125.0	131.4	137.8	144.1	150.5
☉'s L. Merc. ...	337.6	355.4	14.1	33.0	51.3	67.6	79.8	84.7	79.5	73.7	77.9	89.4	104.7	122.3	140.4	158.2	174.8	188.8
+2 Jup. ...	99.5	100.1	101.0	102.0	103.4	104.9	106.8	108.8	110.7	112.8	115.0	117.2	119.4	121.6	123.8	126.1	128.2	130.3
Ven. ...	44.3	54.9	64.2	73.3	80.9	87.2	90.0	89.8	85.1	78.7	73.7	72.7	75.6	81.2	88.6	97.4	107.1	117.5
Sat. ...	339.1	340.3	341.4	342.6	343.5	344.3	345.3	345.7	346.2	346.7	346.5	346.4	346.3	345.7	345.0	344.4	343.6	342.9
1909 Mars ...	277.6	284.1	290.7	297.1	303.3	309.4	315.0	320.6	325.7	330.3	334.4	337.3	339.2	339.9	339.1	337.1	334.4	332.2
☉'s L. Merc. ...	350.8	9.4	27.8	44.9	58.7	65.8	62.6	56.5	57.1	67.4	82.7	99.7	118.1	136.3	153.6	168.5	179.6	182.8
+1 Jup. ...	131.4	130.9	130.9	130.8	131.3	132.1	133.2	134.5	136.0	137.6	139.4	141.4	143.4	145.5	147.6	149.8	152.0	154.2
Ven. ...	354.6	7.1	19.4	31.7	44.0	56.3	68.6	80.7	92.9	105.1	117.5	129.4	142.2	153.7	165.6	177.6	189.7	201.5
Sat. ...	350.5	351.8	353.0	354.3	355.4	356.4	357.5	358.2	358.8	359.6	359.7	359.9	0.1	359.8	359.4	358.9	358.2	357.5
Mesh. Vrsh. Mith. Kat. Sim. Kan. Tul. Vrsch. Dhan. Mak. Kum. Min. Asvn. Bhar.																		

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.			A. D.	Nakshatras.			Yogas.		
	d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.		d.	gh.	p.	d.	gh.	p.
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24
1843	0	54	28	1	41	2	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	52
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



**TABLE XIX:—Ghatikas and Palas (Naligais and Vinadis) as Fractions of a day.**

N.B.—The same table will serve for minutes and seconds as fractions of an Hour or a Degree.

Ghatikas.					Palas.	Ghatikas.					Palas.	Ghatikas.					Palas.	Ghatikas.				
0	1	2	3	4		5	6	7	8	9		10	11	12	13	14		15	16	17	18	19
...	0167	0333	0500	0667	0	0833	1000	1167	1333	1500	0	1667	1833	2000	2167	2333	0	2500	2667	2833	3000	3167
0003	0169	0336	0503	0669	1	0836	1003	1169	1336	1503	1	1669	1836	2003	2169	2336	1	2503	2669	2836	3003	3169
0005	0172	0339	0505	0672	2	0839	1005	1172	1339	1505	2	1672	1839	2005	2172	2339	2	2505	2672	2839	3005	3172
0008	0175	0342	0508	0675	3	0842	1008	1175	1342	1508	3	1675	1842	2008	2175	2342	3	2508	2675	2842	3008	3175
0011	0178	0344	0511	0678	4	0844	1011	1178	1344	1511	4	1678	1844	2011	2178	2344	4	2511	2678	2844	3011	3178
0014	0180	0347	0514	0680	5	0847	1014	1180	1347	1514	5	1680	1847	2014	2180	2347	5	2514	2680	2847	3014	3180
0017	0183	0350	0517	0683	6	0850	1017	1183	1350	1517	6	1683	1850	2017	2183	2350	6	2517	2683	2850	3017	3183
0019	0186	0353	0519	0686	7	0853	1019	1186	1353	1519	7	1686	1853	2019	2186	2353	7	2519	2686	2853	3019	3186
0022	0189	0355	0522	0689	8	0855	1022	1189	1355	1522	8	1689	1855	2022	2189	2355	8	2522	2689	2855	3022	3189
0025	0192	0358	0525	0692	9	0858	1025	1192	1358	1525	9	1692	1858	2025	2192	2358	9	2525	2692	2858	3025	3192
0028	0194	0361	0528	0694	10	0861	1028	1194	1361	1528	10	1694	1861	2028	2194	2361	10	2528	2694	2861	3028	3194
0030	0197	0364	0530	0697	11	0864	1030	1197	1364	1530	11	1697	1864	2030	2197	2364	11	2530	2697	2864	3030	3197
0033	0200	0367	0533	0700	12	0867	1033	1200	1367	1533	12	1700	1867	2033	2200	2367	12	2533	2700	2867	3033	3200
0036	0203	0369	0536	0703	13	0869	1036	1203	1369	1536	13	1702	1869	2036	2203	2369	13	2536	2703	2869	3036	3203
0039	0205	0372	0539	0705	14	0872	1039	1205	1372	1539	14	1705	1872	2039	2205	2372	14	2539	2705	2872	3039	3205
0042	0208	0375	0542	0708	15	0875	1042	1208	1375	1542	15	1708	1875	2042	2208	2375	15	2542	2708	2875	3042	3208
0044	0211	0378	0544	0711	16	0878	1044	1211	1378	1544	16	1711	1878	2044	2211	2378	16	2544	2711	2878	3044	3211
0047	0214	0380	0547	0714	17	0880	1047	1214	1380	1547	17	1714	1880	2047	2214	2380	17	2547	2714	2880	3047	3214
0050	0217	0383	0550	0717	18	0883	1050	1217	1383	1550	18	1717	1883	2050	2217	2383	18	2550	2717	2883	3050	3217
0053	0219	0386	0553	0719	19	0886	1053	1219	1386	1553	19	1719	1886	2053	2219	2386	19	2553	2719	2886	3053	3219
0055	0222	0389	0555	0722	20	0889	1055	1222	1389	1555	20	1722	1889	2055	2222	2389	20	2555	2722	2889	3055	3222
0058	0225	0392	0558	0725	21	0892	1058	1225	1392	1558	21	1725	1892	2058	2225	2392	21	2558	2725	2892	3058	3225
0061	0228	0394	0561	0728	22	0894	1061	1228	1394	1561	22	1728	1894	2061	2228	2394	22	2561	2728	2894	3061	3228
0064	0230	0397	0564	0730	23	0897	1064	1230	1397	1564	23	1730	1897	2064	2230	2397	23	2564	2730	2897	3064	3230
0067	0233	0400	0567	0733	24	0900	1067	1233	1400	1567	24	1733	1900	2067	2233	2400	24	2567	2733	2900	3067	3233
0069	0236	0403	0569	0736	25	0903	1069	1236	1403	1569	25	1736	1903	2069	2236	2403	25	2569	2736	2903	3069	3236
0072	0239	0405	0572	0739	26	0905	1072	1239	1405	1572	26	1739	1905	2072	2239	2405	26	2572	2739	2905	3072	3239
0075	0242	0408	0575	0742	27	0908	1075	1242	1408	1575	27	1742	1908	2075	2242	2408	27	2575	2742	2908	3075	3242
0078	0244	0411	0578	0744	28	0911	1078	1244	1411	1578	28	1744	1911	2078	2244	2411	28	2578	2744	2911	3078	3244
0080	0247	0414	0580	0747	29	0914	1080	1247	1414	1580	29	1747	1914	2080	2247	2414	29	2580	2747	2914	3080	3247
0083	0250	0417	0583	0750	30	0917	1083	1250	1417	1583	30	1750	1917	2083	2250	2417	30	2583	2750	2917	3083	3250
0086	0253	0419	0586	0753	31	0919	1086	1253	1419	1586	31	1753	1919	2086	2253	2419	31	2586	2753	2919	3086	3253
0089	0255	0422	0589	0755	32	0922	1089	1255	1422	1589	32	1755	1922	2089	2255	2422	32	2589	2755	2922	3089	3255
0092	0258	0425	0592	0758	33	0925	1092	1258	1425	1592	33	1758	1925	2092	2258	2425	33	2592	2758	2925	3092	3258
0094	0261	0428	0594	0761	34	0928	1094	1261	1428	1594	34	1761	1928	2094	2261	2428	34	2594	2761	2928	3094	3261
0097	0264	0430	0597	0764	35	0930	1097	1264	1430	1597	35	1764	1930	2097	2264	2430	35	2597	2764	2930	3097	3264
0100	0267	0433	0600	0767	36	0933	1100	1267	1433	1600	36	1767	1933	2100	2267	2433	36	2600	2767	2933	3100	3267
0103	0269	0436	0603	0769	37	0936	1103	1269	1436	1603	37	1769	1936	2103	2269	2436	37	2603	2769	2936	3103	3269
0105	0272	0439	0605	0772	38	0939	1105	1272	1439	1605	38	1772	1939	2105	2272	2439	38	2605	2772	2939	3105	3272
0108	0275	0442	0608	0775	39	0942	1108	1275	1442	1608	39	1775	1942	2108	2275	2442	39	2608	2775	2942	3108	3275
0111	0278	0444	0611	0778	40	0944	1111	1278	1444	1611	40	1778	1944	2111	2278	2444	40	2611	2778	2944	3111	3278
0114	0280	0447	0614	0780	41	0947	1114	1280	1447	1614	41	1780	1947	2114	2280	2447	41	2614	2780	2947	3114	3280
0117	0283	0450	0617	0783	42	0950	1117	1283	1450	1617	42	1783	1950	2117	2283	2450	42	2617	2783	2950	3117	3283
0119	0286	0453	0619	0786	43	0953	1119	1286	1453	1619	43	1786	1953	2119	2286	2453	43	2619	2786	2953	3119	3286
0122	0289	0455	0622	0789	44	0955	1122	1289	1455	1622	44	1789	1955	2122	2289	2455	44	2622	2789	2955	3122	3289
0125	0292	0458	0625	0792	45	0958	1125	1292	1458	1625	45	1792	1958	2125	2292	2458	45	2625	2792	2958	3125	3292
0128	0294	0461	0628	0794	46	0961	1128	1294	1461	1628	46	1794	1961	2128	2294	2461	46	2628	2794	2961	3128	3294
0130	0297	0464	0630	0797	47	0964	1130	1297	1464	1630	47	1797	1964	2130	2297	2464	47	2630	2797	2964	3130	3297
0133	0300	0467	0633	0800	48	0967	1133	1300	1467	1633	48	1800	1967	2133	2300	2467	48	2633	2800	2967	3133	3300
0136	0303	0469	0636	0803	49	0969	1136	1303	1470	1636	49	1803	1969	2136	2303	2469	49	2636	2803	2969	3136	3303
0139	0305	0472	0639	0805	50	0972	1139	1305	1472	1639	50	1805	1972	2139	2305	2472	50	2639	2805	2972	3139	3305
0142	0308	0475	0642	0808	51	0975	1142	1308	1475	1642	51	1808	1975	2142	2308	2475	51	2642	2808	2975	3142	3308
0144	0311	0478	0644	0811	52	0978	1144	1311	1478	1644	52	1811	1978	2144	2311	2478	52	2644	2811	2978	3144	3311
0147	0314	0480	0647	0814	53	0980	1147	1314	1480	1647	53	1814	1980	2147	2314	2480	53	2647	2814	2980	3147	3314
0150	0317	0483	0650	0817	54	0983	1150	1317	1483	1650	54	1817	1983	2150	2317	2483	54	2650	2817	2983	3150	3317
0153	0319	0486	0653	0819	55	0986	1153	1319	1486	1653	55	1819	1986	2153	2319	2486	55	2653	2819	2986	3153	3319
0155	0322	0489	0655	0822	56	0989	1155	1322	1489	1655	56	1822	1989	2155	2322	2489	56	2655	2822	2989	3155	3322
0158	0325	0492	0658	0825	57	0992	1158															



**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XIX:—Ghatikas and Palas (Naligais and Vinadis) as Fractions of a day.—contd.****N.B.**—The same table will serve for minutes and seconds as fractions of an **Hour** or a **Degree**.

Ghatikas.					Palas.	Ghatikas.					Palas.	Ghatikas.					Palas.	Ghatikas.				
40	41	42	43	44		45	46	47	48	49		50	51	52	53	54		55	56	57	58	59
•6667	•6833	•7000	•7167	•7333	0	•7500	•7667	•7833	•8000	•8167	0	•8333	•8500	•8667	•8833	•9000	0	•9167	•9333	•9500	•9667	•9833
•6669	•6836	•7003	•7169	•7336	1	•7503	•7669	•7836	•8003	•8169	1	•8336	•8503	•8669	•8836	•9003	1	•9169	•9336	•9503	•9669	•9836
•6672	•6839	•7006	•7172	•7339	2	•7505	•7672	•7839	•8005	•8172	2	•8339	•8505	•8672	•8839	•9005	2	•9172	•9339	•9505	•9672	•9839
•6675	•6842	•7008	•7175	•7342	3	•7508	•7675	•7842	•8008	•8175	3	•8342	•8508	•8675	•8842	•9008	3	•9175	•9342	•9508	•9675	•9842
•6678	•6844	•7011	•7178	•7344	4	•7511	•7678	•7844	•8011	•8178	4	•8344	•8511	•8678	•8844	•9011	4	•9178	•9344	•9511	•9678	•9844
•6680	•6847	•7014	•7180	•7347	5	•7514	•7680	•7847	•8014	•8180	5	•8347	•8514	•8680	•8847	•9014	5	•9180	•9347	•9514	•9680	•9847
•6683	•6850	•7017	•7183	•7350	6	•7517	•7683	•7850	•8017	•8183	6	•8350	•8517	•8683	•8850	•9017	6	•9183	•9350	•9517	•9683	•9850
•6686	•6853	•7019	•7186	•7353	7	•7519	•7686	•7853	•8019	•8186	7	•8353	•8519	•8686	•8853	•9019	7	•9186	•9353	•9519	•9686	•9853
•6689	•6855	•7022	•7189	•7355	8	•7522	•7689	•7855	•8022	•8189	8	•8355	•8522	•8689	•8855	•9022	8	•9189	•9355	•9522	•9689	•9855
•6692	•6858	•7025	•7192	•7358	9	•7525	•7692	•7858	•8025	•8192	9	•8358	•8525	•8692	•8858	•9025	9	•9192	•9358	•9525	•9692	•9858
•6694	•6861	•7028	•7194	•7361	10	•7528	•7694	•7861	•8028	•8194	10	•8361	•8528	•8694	•8861	•9028	10	•9194	•9361	•9528	•9694	•9861
•6697	•6864	•7030	•7197	•7364	11	•7530	•7697	•7864	•8030	•8197	11	•8364	•8530	•8697	•8864	•9030	11	•9197	•9364	•9530	•9697	•9864
•6700	•6867	•7033	•7200	•7367	12	•7533	•7700	•7867	•8033	•8200	12	•8367	•8533	•8700	•8867	•9033	12	•9200	•9367	•9533	•9700	•9867
•6703	•6869	•7036	•7203	•7369	13	•7536	•7703	•7869	•8036	•8203	13	•8369	•8536	•8703	•8869	•9036	13	•9203	•9369	•9536	•9703	•9869
•6705	•6872	•7039	•7205	•7372	14	•7539	•7705	•7872	•8039	•8205	14	•8372	•8539	•8705	•8872	•9039	14	•9205	•9372	•9539	•9705	•9872
•6708	•6875	•7042	•7208	•7375	15	•7542	•7708	•7875	•8042	•8208	15	•8375	•8542	•8708	•8875	•9042	15	•9208	•9375	•9542	•9708	•9875
•6711	•6878	•7044	•7211	•7378	16	•7544	•7711	•7878	•8044	•8211	16	•8378	•8544	•8711	•8878	•9044	16	•9211	•9378	•9544	•9711	•9878
•6714	•6880	•7047	•7214	•7380	17	•7547	•7714	•7880	•8047	•8214	17	•8380	•8547	•8714	•8880	•9047	17	•9214	•9380	•9547	•9714	•9880
•6717	•6883	•7050	•7217	•7383	18	•7550	•7717	•7883	•8050	•8217	18	•8383	•8550	•8717	•8883	•9050	18	•9217	•9383	•9550	•9717	•9883
•6719	•6886	•7053	•7219	•7386	19	•7553	•7719	•7886	•8053	•8219	19	•8386	•8553	•8719	•8886	•9053	19	•9219	•9386	•9553	•9719	•9886
•6722	•6889	•7055	•7222	•7389	20	•7555	•7722	•7889	•8055	•8222	20	•8389	•8555	•8722	•8889	•9055	20	•9222	•9389	•9555	•9722	•9889
•6725	•6892	•7058	•7225	•7392	21	•7558	•7725	•7892	•8058	•8225	21	•8392	•8558	•8725	•8892	•9058	21	•9225	•9392	•9558	•9725	•9892
•6728	•6894	•7061	•7228	•7394	22	•7561	•7728	•7894	•8061	•8228	22	•8394	•8561	•8728	•8894	•9061	22	•9228	•9394	•9561	•9728	•9894
•6730	•6897	•7064	•7230	•7397	23	•7564	•7730	•7897	•8064	•8230	23	•8397	•8564	•8730	•8897	•9064	23	•9230	•9397	•9564	•9730	•9897
•6733	•6900	•7067	•7233	•7400	24	•7567	•7733	•7900	•8067	•8233	24	•8400	•8567	•8733	•8900	•9067	24	•9233	•9400	•9567	•9733	•9900
•6736	•6903	•7069	•7236	•7403	25	•7569	•7736	•7903	•8069	•8236	25	•8403	•8569	•8736	•8903	•9069	25	•9236	•9403	•9569	•9736	•9903
•6739	•6905	•7072	•7239	•7405	26	•7572	•7739	•7905	•8072	•8239	26	•8405	•8572	•8739	•8905	•9072	26	•9239	•9405	•9572	•9739	•9905
•6742	•6908	•7075	•7242	•7408	27	•7575	•7742	•7908	•8075	•8242	27	•8408	•8575	•8742	•8908	•9075	27	•9242	•9408	•9575	•9742	•9908
•6744	•6911	•7078	•7244	•7411	28	•7578	•7744	•7911	•8078	•8244	28	•8411	•8578	•8744	•8911	•9078	28	•9244	•9411	•9578	•9744	•9911
•6747	•6914	•7080	•7247	•7414	29	•7580	•7747	•7914	•8080	•8247	29	•8414	•8580	•8747	•8914	•9080	29	•9247	•9414	•9580	•9747	•9914
•6750	•6917	•7083	•7250	•7417	30	•7583	•7750	•7917	•8083	•8250	30	•8417	•8583	•8750	•8917	•9083	30	•9250	•9417	•9583	•9750	•9917
•6753	•6919	•7086	•7253	•7419	31	•7586	•7753	•7919	•8086	•8253	31	•8419	•8586	•8753	•8919	•9086	31	•9253	•9419	•9586	•9753	•9919
•6755	•6922	•7089	•7256	•7422	32	•7589	•7755	•7922	•8089	•8255	32	•8422	•8589	•8755	•8922	•9089	32	•9255	•9422	•9589	•9755	•9922
•6758	•6925	•7092	•7258	•7425	33	•7592	•7758	•7925	•8092	•8258	33	•8425	•8592	•8758	•8925	•9092	33	•9258	•9425	•9592	•9758	•9925
•6761	•6928	•7094	•7261	•7428	34	•7594	•7761	•7928	•8094	•8261	34	•8428	•8594	•8761	•8928	•9094	34	•9261	•9428	•9594	•9761	•9928
•6764	•6930	•7097	•7264	•7430	35	•7597	•7764	•7930	•8097	•8264	35	•8430	•8597	•8764	•8930	•9097	35	•9264	•9430	•9597	•9764	•9930
•6767	•6933	•7100	•7267	•7433	36	•7600	•7767	•7933	•8100	•8267	36	•8433	•8600	•8767	•8933	•9100	36	•9267	•9433	•9600	•9767	•9933
•6769	•6936	•7103	•7269	•7436	37	•7603	•7769	•7936	•8103	•8269	37	•8436	•8603	•8769	•8936	•9103	37	•9269	•9436	•9603	•9769	•9936
•6772	•6939	•7105	•7272	•7439	38	•7605	•7772	•7939	•8105	•8272	38	•8439	•8605	•8772	•8939	•9105	38	•9272	•9439	•9605	•9772	•9939
•6775	•6942	•7108	•7275	•7442	39	•7608	•7775	•7942	•8108	•8275	39	•8442	•8608	•8775	•8942	•9108	39	•9275	•9442	•9608	•9775	•9942
•6778	•6944	•7111	•7278	•7444	40	•7611	•7778	•7944	•8111	•8278	40	•8444	•8611	•8778	•8944	•9111	40	•9278	•9444	•9611	•9778	•9944
•6780	•6947	•7114	•7280	•7447	41	•7614	•7780	•7947	•8114	•8280	41	•8447	•8614	•8780	•8947	•9114	41	•9280	•9447	•9614	•9780	•9947
•6783	•6950	•7117	•7283	•7450	42	•7617	•7783	•7950	•8117	•8283	42	•8450	•8617	•8783	•8950	•9117	42	•9283	•9450	•9617	•9783	•9950
•6786	•6953	•7119	•7286	•7453	43	•7619	•7786	•7953	•8119	•8286	43	•8453	•8619	•8786	•8953	•9119	43	•9286	•9453	•9619	•9786	•9953
•6789	•6956	•7122	•7289	•7456	44	•7622	•7789	•7955	•8122	•8289	44	•8455	•8622	•8789	•8955	•9122	44	•9289	•9455	•9622	•9789	•9955
•6792	•6958	•7125	•7292	•7458	45	•7625	•7792	•7958	•8125	•8292	45	•8458	•8625	•8792	•8958	•9125	45	•9292	•9458	•9625	•9792	•9958
•6794	•6961	•7128	•7294	•7461	46	•7628	•7794	•7961	•8128	•8294	46	•8461	•8628	•8794	•8961	•9128	46	•9294	•9461	•9628	•9794	•9961
•6797	•6964	•7130	•7297	•7464	47	•7630	•7797	•7964	•8130	•8297	47	•8464	•8630	•8797	•8964	•9130	47	•9297	•9464	•9630	•9797	•9964
•6800	•6967	•7133	•7300	•7467	48	•7633	•7800	•7967	•8133	•8300	48	•8467	•8633	•8800	•8967	•9133	48	•9300	•9467	•9633	•9800	•9967
•6803	•6969	•7136	•7303	•7469	49	•7636	•7803	•7969	•8136	•8303	49	•8469	•8636	•8803	•8969	•9136	49	•9303	•9469	•9636	•9803	•9969
•6805	•6972	•7139	•7305	•7472	50	•7639	•7805	•7972	•8139	•8305	50	•8472	•8639	•8805	•8972	•9139	50	•9305	•9472	•9639	•9805	•9972
•6808	•6975	•7142	•7308	•7475	51	•7642	•7808	•7975	•8142	•8308	51	•8475	•8642	•8808	•8975	•9142	51	•9308	•9475	•9642	•9808	•9975

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34		3	58	34
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13		0	30	13
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44		89	27	16
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.								
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25
July	11	21	29				8	59

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

TABLE XX:— Hours and Minutes as Fractions of a Day—contd.

Minutes.	Hours.				Minutes.	Hours.				Minutes.	Hours.				Minutes.	Seconds of hours as frac- tions of a day.
	12	13	14	15		16	17	18	19		20	21	22	23		
0	5000000	5416666	5833333	6250000	0	6666666	7083333	7500000	7916666	0	8333333	8750000	9166666	9583333	0	...
1	5006944	5423611	5840277	6256944	1	6673611	7090277	7506944	7923611	1	8340277	8756944	9173611	9590277	1	00001
2	5013888	5430555	5847222	6263888	2	6680555	7097222	7513888	7930555	2	8347222	8763888	9180555	9597222	2	00002
3	5020833	5437500	5854166	6270833	3	6687500	7104166	7520833	7937500	3	8354166	8770833	9187500	9604166	3	00003
4	5027777	5444444	5861111	6277777	4	6694444	7111111	7527777	7944444	4	8361111	8777777	9194444	9611111	4	00004
5	5034722	5451388	5868055	6284722	5	6701388	7118055	7534722	7951388	5	8368055	8784722	9201388	9618055	5	00005
6	5041666	5458333	5875000	6291666	6	6708333	7125000	7541666	7958333	6	8375000	8791666	9208333	9625000	6	00006
7	5048611	5465277	5881944	6298611	7	6715277	7131944	7548611	7965277	7	8381944	8798611	9215277	9631944	7	00007
8	5055555	5472222	5888888	6305555	8	6722222	7138888	7555555	7972222	8	8388888	8805555	9222222	9638888	8	00008
9	5062500	5479166	5895833	6312500	9	6729166	7145833	7562500	7979166	9	8395833	8812500	9229166	9645833	9	00009
10	5069444	5486111	5902777	6319444	10	6736111	7152777	7569444	7986111	10	8402777	8819444	9236111	9652777	10	00010
11	5076388	5493055	5909722	6326388	11	6743055	7159722	7576388	7993055	11	8409722	8826388	9243055	9659722	11	00011
12	5083333	5500000	5916666	6333333	12	6750000	7166666	7583333	8000000	12	8416666	8833333	9250000	9666666	12	00012
13	5090277	5506944	5923611	6340277	13	6756944	7173611	7590277	8006944	13	8423611	8840277	9256944	9673611	13	00013
14	5097222	5513888	5930555	6347222	14	6763888	7180555	7597222	8013888	14	8430555	8847222	9263888	9680555	14	00014
15	5104166	5520833	5937500	6354166	15	6770833	7187500	7604166	8020833	15	8437500	8854166	9270833	9687500	15	00015
16	5111111	5527777	5944444	6361111	16	6777777	7194444	7611111	8027777	16	8444444	8861111	9277777	9694444	16	00016
17	5118055	5534722	5951388	6368055	17	6784722	7201388	7618055	8034722	17	8451388	8868055	9284722	9701388	17	00017
18	5125000	5541666	5958333	6375000	18	6791666	7208333	7625000	8041666	18	8458333	8875000	9291666	9708333	18	00018
19	5131944	5548611	5965277	6381944	19	6798611	7215277	7631944	8048611	19	8465277	8881944	9298611	9715277	19	00019
20	5138888	5555555	5972222	6388888	20	6805555	7222222	7638888	8055555	20	8472222	8888888	9305555	9722222	20	00020
21	5145833	5562500	5979166	6395833	21	6812500	7229166	7645833	8062500	21	8479166	8895833	9312500	9729166	21	00021
22	5152777	5569444	5986111	6402777	22	6819444	7236111	7652777	8069444	22	8486111	8902777	9319444	9736111	22	00022
23	5159722	5576388	5993055	6409722	23	6826388	7243055	7659722	8076388	23	8493055	8909722	9326388	9743055	23	00023
24	5166666	5583333	6000000	6416666	24	6833333	7250000	7666666	8083333	24	8500000	8916666	9333333	9750000	24	00024
25	5173611	5590277	6006944	6423611	25	6840277	7256944	7673611	8090277	25	8506944	8923611	9340277	9756944	25	00025
26	5180555	5597222	6013888	6430555	26	6847222	7263888	7680555	8097222	26	8513888	8930555	9347222	9763888	26	00026
27	5187500	5604166	6020833	6437500	27	6854166	7270833	7687500	8104166	27	8520833	8937500	9354166	9770833	27	00027
28	5194444	5611111	6027777	6444444	28	6861111	7277777	7694444	8111111	28	8527777	8944444	9361111	9777777	28	00028
29	5201388	5618055	6034722	6451388	29	6868055	7284722	7701388	8118055	29	8534722	8951388	9368055	9784722	29	00029
30	5208333	5625000	6041666	6458333	30	6875000	7291666	7708333	8125000	30	8541666	8958333	9375000	9791666	30	00030
31	5215277	5631944	6048611	6465277	31	6881944	7298611	7715277	8131944	31	8548611	8965277	9381944	9798611	31	00031
32	5222222	5638888	6055555	6472222	32	6888888	7305555	7722222	8138888	32	8555555	8972222	9388888	9805555	32	00032
33	5229166	5645833	6062500	6479166	33	6895833	7312500	7729166	8145833	33	8562500	8979166	9395833	9812500	33	00033
34	5236111	5652777	6069444	6486111	34	6902777	7319444	7736111	8152777	34	8569444	8986111	9402777	9819444	34	00034
35	5243055	5659722	6076388	6493055	35	6909722	7326388	7743055	8159722	35	8576388	8993055	9409722	9826388	35	00035
36	5250000	5666666	6083333	6500000	36	6916666	7333333	7750000	8166666	36	8583333	9000000	9416666	9833333	36	00036
37	5256944	5673611	6090277	6506944	37	6923611	7340277	7756944	8173611	37	8590277	9006944	9423611	9840277	37	00037
38	5263888	5680555	6097222	6513888	38	6930555	7347222	7763888	8180555	38	8597222	9013888	9430555	9847222	38	00038
39	5270833	5687500	6104166	6520833	39	6937500	7354166	7770833	8187500	39	8604166	9020833	9437500	9854166	39	00039
40	5277777	5694444	6111111	6527777	40	6944444	7361111	7777777	8194444	40	8611111	9027777	9444444	9861111	40	00040
41	5284722	5701388	6118055	6534722	41	6951388	7368055	7784722	8201388	41	8618055	9034722	9451388	9868055	41	00041
42	5291666	5708333	6125000	6541666	42	6958333	7375000	7791666	8208333	42	8625000	9041666	9458333	9875000	42	00042
43	5298611	5715277	6131944	6548611	43	6965277	7381944	7798611	8215277	43	8631944	9048611	9465277	9881944	43	00043
44	5305555	5722222	6138888	6555555	44	6972222	7388888	7805555	8222222	44	8638888	9055555	9472222	9888888	44	00044
45	5312500	5729166	6145833	6562500	45	6979166	7395833	7812500	8229166	45	8645833	9062500	9479166	9895833	45	00045
46	5319444	5736111	6152777	6569444	46	6986111	7402777	7819444	8236111	46	8652777	9069444	9486111	9902777	46	00046
47	5326388	5743055	6159722	6576388	47	6993055	7409722	7826388	8243055	47	8659722	9076388	9493055	9909722	47	00047
48	5333333	5750000	6166666	6583333	48	7000000	7416666	7833333	8250000	48	8666666	9083333	9500000	9916666	48	00048
49	5340277	5756944	6173611	6590277	49	7006944	7423611	7840277	8256944	49	8673611	9090277	9506944	9923611	49	00049
50	5347222	5763888	6180555	6597222	50	7013888	7430555	7847222	8263888	50	8680555	9097222	9513888	9930555	50	00050
51	5354166	5770833	6187500	6604166	51	7020833	7437500	7854166	8270833	51	8687500	9104166	9520833	9937500	51	00051
52	5361111	5777777	6194444	6611111	52	7027777	7444444	7861111	8277777	52	8694444	9111111	9527777	9944444	52	00052
53	5368055	5784722	6201388	6618055	53	7034722	7451388	7868055	8284722	53	8701388	9118055	9534722	9951388	53	00053
54	5375000	5791666	6208333	6625000	54	7041666	7458333	7875000	8291666	54	8708333	9125000	9541666	9958333	54	00054
55	5381944	5798611	6215277	6631944	55	7048611	7465277	7881944	8298611	55	8715277	9131944	9548611	9965277	55	00055
56	5388888	5805555	6222222	6638888	56	7055555	7472222	7888888	8305555	56	8722222	9138888	9555555	9972222	56	00056
57	5395833	5812500	6229166	6645833	57	7062500	7479166	7895833	8312500	57	8729166	9145833	9562500	9979166	57	00057
58	5402777	5819444	6236111	6652777	58	7069444	7486111	7902777	8319444	58	8736111	9152777	9569444	9986111	58	00058
59	5409722	5826388	6243055	6659722	59	7076388	7493055	7909722	8326388	59	8743055	9159722	9576388	9993055	59	00059

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

## Models for Compendious Working of Tithis, Nakshatras and Yogas.

These models are chiefly intended to illustrate the use of the Eye-Table, which is a companion to Tables VIII IX, X, XI, XII and XVII for finding longitudes, rasis, solar dates and, lastly and chiefly, the ending moments of an Tithi, Nakshatra, or Yoga.

**Table XII and Eye-Table.—Lunar Tithis (A.D. 1840—A.D. 1920).**

*Required the ending moment of (Lunar) Ashada Sukla Ashtami, Saka 1832, Vik. 1967.*

Mean ending moment of		d.	gh.	p.		☉'s Anom.	☾'s Anom.
Ashadha New Moon Saka 1832.						d. gh.	d. gh.
(Table XII) A.D. 1910. ...	Jl.	7	10	57		84 58	4 29
Collective duration of 8 tithis (Eye-Table)		7	52	29	☉'s Eqn.	7 52	7 52
					(Eye-Tab.)		
Ending moment of mean Tithi ...	Jl.	15	3	26	☾'s Eq.	92 50	12 21
Sum of ☉'s and ☾'s Equations ...				—11	(Eye-Tab.)		—2 (☉'s eqn.)
	Jl.	14	52			—11	12 19

The ending moment of the tithi (Lanka time) was, therefore, 52 ghatikas after Lanka sunrise on 14 July 1910. If we want local time, we should use Table XIII.

**Tables XII, XI and IX-i.—Nakshatras and Yogas (A.D. 1840—A.D. 1920).** Eye-Table not used.

*Required the ending moment of Krittika Nakshatra for the month of July 1910.*

Since Ashadha New Moon fell on 7 July 1910 and Krittika Nakshatra in Ashadha ends about 25 days from New moon (Table XI) which would take us into August, we take the previous New moon.

New moon (Table XI) which would take us into August, we take the previous New moon.	d.	gh.	p.		d.	gh.	p.		d.	gh.	p.
(Tab. XII) Jyeshtha New Moon ... A. D. 1910.				Je.	7	39	7		2	30	40
(Tab. XI-A) Longest interval from											
Jyesh. New Moon to Krit. (No. 3) Nak. ...	28	18	39								
(Tab. XI-A) Deduct for Nak. in S.Y. A.D. 1910 ...	1	56	18		26	22	21		26	22	21
	26	22	21	Je.	34	1	28		28	53	1
(Tab. IX-D) ☾'s Nak. Eqn. for An. of 1 d. 19 gh. 44 p.									27	33	17
											Anom. month

The ending moment of Krittika Nakshatra in July 1910, was 55 ghatikas after Lanka sunrise on 3 July 1910. If we want local time, we should use Table XIII.

For Yogas proceed similarly, but add together ☉'s and ☾'s Yoga Eqns. by Tab. IX-i.

**Table X and Eye-Table.—Lunar Tithis (ANY YEAR IN TAB. X.)**

This method will be of immense service to Epigraphists who will require the English equivalents of thousands of tithis ranging from 1 B.C. to modern times. With Table X and the Eye-Table the operation can be performed in less than a minute. Thus, *Required the ending moment of Ashada Sukla 12, A.D. 484, K.Y. 3535.*

Mean ending moment of Ashada New moon Tithi. A.D. 484 (Table X).	Week-day.	Month and day.	Fraction of day.		☉'s Anom.	☾'s Anom.
	7	Je. 9	.67	☉'s Eqn. —.04.	24.39	4.49
				(Eye-Tab.)	59.06	3.95
Collective duration of 12 tithis (Eye-Tab.)	11	11	.81	☾'s Eqn. +.41	83.45	8.44
	+1*			(Eye-Tab.)	11.81	11.81
	19	21	.48		95.26	20.25
Sum of ☉'s and ☾'s Equations ...	...	...	+37	+37		—04 (☉'s Eqn.)
						20.21
(19-14)=	5	21	.85			

ANSWER.—*Thursday, 21 June A.D. 484, at .85 (i.e., by Eye-Table, 51 ghatikas or 20½ hours) after sunrise (Lanka time).* The absolutely correct time differs from the above by only 11 palas, as we may see at p. 91, Sec. 259 of the text.

\* When the sum of the several fractions of a day in the column headed *fraction of day* exceeds unity, we should add 1 to the "Week-day" column.

### TABLES XVII, XI, X, VIII, V, III, AND EYE-TABLE.—NAKSHATRAS AND YOGAS

THREE ALTERNATIVE METHODS TO CHOOSE FROM. (ANY YEAR IN TAB. X). Table IX not used.

*Required the Nakshatra current at the ending moment of above Tithi.*

By Table VIII (last col.) the sun's long. for Nak. corresponding to 95 days of the solar year is. 7.5051

By Table V (last col.) ☉'s long. for .26 day is ... .02

☉'s long. corresponding to 95.26 days ... 7.53

Add Tithi equivalent in days ... 11.81

19.34

By Table III, at 19.34 days of lunation space, the Nakshatra current is the 18th, i.e., Jyeshtha. This, then, was the Nakshatra current at the ending moment of Ash. Suk. 12, A.D. 484.

#### SECOND METHOD

We may calculate directly from Tab. XVII-A and C (pp. 207, 209), ☉'s long. for 95.26 days of Solar year, i.e.,  $91.49^\circ - 54^\circ + .26^\circ = 91.21^\circ$ . Add ☾'s-☉'s long. i.e., No. of tithi  $\times 12^\circ = 12 \times 12^\circ = 144^\circ$

Total ...  $235.21^\circ$

This, by Eye-Tab. is the long. of Nakshatra Jyeshtha.

#### THIRD METHOD BY TABLE XI, FOR ENDING MOMENT OF NAKSHATRA.

Annual correction for Nakshatras for A.D. 484 is that for 24.39, i.e.,  $1.79 + .03 = 1.82$  (Tab. X and XI).

The ending moment of No. 18 Nak. in Lunar Ashada was  $13.95 - 1.82 = 12.13$  days from the new moon, i.e., .32 of a day after the mean tithi, whose ending moment is 11.81 days from New moon.

The ☾'s anom. then was .32 more than that of the tithi, i.e.,  $20.57$ , for which the Nak. eqn. is  $+38$  (Eye-Tab.). The ending moment of the Nak. No. 18, i.e., Jyeshtha, was, therefore,  $.48 + .32 + .38 = 1.18$  or .18 of a day after sunrise on the next day after the 21st June.

*Yoga current at ending moment of above tithi.*

$2 \times \text{☉'s Longitude as in 1st column} = 182.42^\circ$

Add. ☾'s-☉'s long. = No. of Tithi  $\times 12^\circ = 144^\circ$

Total ...  $326.42^\circ$

This, by Eye-Tab., is the long. of Yoga Brahman.

[N. B.—Readers who have to use this Eye-Table frequently are advised either to get it mounted on cloth or to get a mounted spare copy, *price* four annas.]

# EYE-TABLE.

## SANKRANTIS, i. e., (1) MOMENTS OF COMMENCEMENT OF SOLAR MONTHS, (2) LATEST POSSIBLE MOMENT

Order of Signs of Zodiac or Rasis	...	...	...	1	2	3	4
Bengal Solar months	...	...	...	Vaisakha	Jyeshtha	Ashadha	Sravana
Malayalam Solar months ; also names of Rasis	...	...	...	{ Mesha Medam	{ Vrishabha Edavam	Mithunam	Karkadam
Degree of Longitude at planet's entry into each sign	...	...	...	0°	30°	60°	90°
Tamil Solar months	...	...	...	Chittirai	Vaikasi	Ani	Adi
Moment of Sankranti in days of Solar Year, and decimals of a day	...	...	...	0.0	30.9353	62.3555	94.0003
Do.	do.	Ghatikas and Palas	...	0, 0, 0	30, 56, 7	62, 21, 20	94, 0, 1
English date corresponding to each Sankranti (A.D. 1911)	...	...	...	Ap. 13	May 14	June 14	July 16
Lunar Month : each month commences <i>before</i> Sankranti noted in <i>next</i> column.	...	...	...	(1) Vaisakha	(2) Jyeshtha	(3) Ashadha	(4) Sravana (5)

Tithis	...	...	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Tithi equivalent in days	...	...	98	1.97	2.95	3.94	4.92	5.91	6.89	7.87	8.86	9.84	10.83	11.81	12.80	13.78	14.76
Do.	do.	Ghatikas, and Palas	...	0, 59, 4	1, 58, 7	2, 57, 11	3, 56, 15	4, 55, 18	5, 54, 22	6, 53, 26	7, 52, 30	8, 51, 34	9, 50, 38	10, 49, 42	11, 48, 46	12, 47, 50	13, 46, 54
Do.	do.	do.	...	15, 44, 59	16, 44, 2	17, 43, 6	18, 42, 10	19, 41, 14	20, 40, 17	21, 39, 21	22, 38, 25	23, 37, 29	24, 36, 33	25, 35, 37	26, 34, 41	27, 33, 45	28, 32, 49

## Order, Names and Longitudes of

Nakshatras	...	...	...	...	Asvini	Bharani	Krittika	Rohini	Mrigashira	Ardra
YOGAS	...	...	...	...	Vishkambha	Priti	Ayushman	Saubhagya	Sobhana	Atiganda
Longitude at Planet's entry into each Nakshatra ; also longitude, at commencement, of each Yoga.	...	...	...	...	0°	13° 20'	26° 40'	40° 0'	53° 20'	66° 40'
Nakshatras	...	...	...	...	Svati	Visakha	Anuradha	Jyeshtha	Mula	Pur. Ashad
YOGAS	...	...	...	...	Ujra	Siddhi	Vyatipata	Variyas	Parigha	Siva
Longitude at Planet's entry into each Nakshatra ; also longitude, at commencement, of each Yoga.	...	...	...	...	186° 40'	200° 0'	213° 0'	226° 40'	240° 0'	253° 20'

## (Surya Siddhanta.) Moon's Equation of the Centre and Moon's Anomaly in Days and Decimals

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
* -	00	11	23	34	46	58	69	81	93	104	116	128	140	152	164	177	189	202	214	227	240	253
* -	13.78	13.68	13.59	13.49	13.40	13.30	13.20	13.11	13.01	12.91	12.81	12.71	12.61	12.51	12.41	12.31	12.20	12.10	11.99	11.88	11.77	11.66
* +	13.78	13.87	13.97	14.06	14.16	14.25	14.35	14.45	14.54	14.64	14.74	14.84	14.94	15.04	15.14	15.24	15.35	15.45	15.56	15.67	15.78	15.89
* +	21.55	27.44	27.32	27.21	27.09	26.98	26.86	26.74	26.63	26.51	26.39	26.27	26.15	26.03	25.91	25.79	25.66	25.54	25.41	25.28	25.15	25.03
Equation for Nakshatras	...	04	05	06	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	
Equation for Yogas	...	03	04	05	06	06	08	08	09	10	11	12	13	14	15	15	16	17	18	19	20	

## (Surya Siddhanta.) Sun's equation of the Centre and Sun's Anomaly in days of the Solar year and decimals

	+18	+175	+17	+16	+15	+14	+13	+12	+11	+10	+09	+08	+07	+06	+05	+04	+03	+02	+01	00	-01
358	0	7	16	23	28	33	38	42	46	50	54	57	61	64	68	71	74	77	80	84	88
354	343	334	327	321	315	310	305.5	301	297	293	289	286	283	279	276	273	269.5	266	263	260	257

## (Surya Siddhanta.) Moon's Equation of the Centre in Ghatikas and Moon's Anoma

Ghatikas	...	...	...	0	1	2	3	4	5	6	7	8	9	10
Days & Ghat. (neg. eqn.)	...	...	...	...	0, 11	0, 23	0, 34	0, 46	0, 58	1, 10	1, 22	1, 34	1, 46	1, 59
Do.	...	...	...	...	13, 47	13, 37	13, 28	13, 18	12, 8	12, 59	12, 49	12, 39	12, 29	12, 19
Do.	...	...	...	...	13, 47	13, 56	14, 6	14, 15	14, 25	14, 35	14, 44	14, 54	15, 4	15, 15
Do.	...	...	...	...	27, 33	27, 24	27, 10	26, 59	26, 47	26, 35	26, 24	26, 12	26, 0	25, 15

## (Surya Siddhanta.) Sun's Equation of the Centre in Ghatikas and Sun's Anomaly in Days. (The

Ghatikas	...	...	...	+11	+10½	+10	+9	+8	+7	+6	+5	+4	+3	+2
Days	...	...	...	359	1	11	23	32	39½	46	53	59	64	70
Do.	...	...	...	354	343	333	321	312	304	297	291	285	279	274

29.53059 d. (1 Syn. mo.)=29 d., 12 hrs., 44 min., 3½ sec. ; 27.5546 d.=27 d., 13 hrs., 18 min., 37 sec. Hours as Decimal Fractions of a D

Fraction of a day=hours	...	...	...	1	2	3	4	5	6	7	8	9	10	11	12	13
29.5306 d. (1 Syn. mo.)=29 d., 31 gh., 50 p. ; 27.5546 d. (1 an. mo.)=27 d., 33 gh., 17 p. Ghatikas as Decimal	...	...	...	04	08	12	17	21	25	29	33	37	42	46	50	54
Do.	do.	=Ghatikas	...	02	03	05	07	08	10	12	13	15	17	18	20	22
Do.	do.	= do.	...	31	32	33	34	35	36	37	38	39	40	41	42	43
				52	53	55	57	58	60	62	63	65	67	68	70	72

LATEST POSSIBLE MOMENTS OF COMMENCEMENT OF LUNAR MONTHS (Surya Siddhanta), (3) Longitudes of Rasis.

3	4	5	6	7	8	9	10	11	12
Ashadha	Sravana	Bhadrapada	Asvina	Karttika	Margasira	Pausha	Magha	Phalguna	Chaitra
Mithunam	Karkadam	Simham	Kanni	Tulam	Vrischikam	Dhanus	Makaram	Kumbham	Minam
60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
Ani	Adi	Avani	Purattasi	Aihpasi	Kartigai	Margali	Tai	Masi	Panguni
62.3555	94.0003	125.4755	156.4942	186.9355	216.8289	246.8192	275.6369	305.0850	334.9053
62, 21, 20	94, 0, 1	125, 28, 32	156, 29, 39	186, 56, 8	216, 49, 44	246, 19, 9	275, 38, 13	305, 5, 6	334, 54, 19
June 14	July 16	Aug. 16	Sep. 16	Oct. 17	Nov. 16	Dec. 15	Jan. 14	Feb. 12	Mar. 13

(3) Ashadha (4) Sravana (5) Bhadrapada (6) Asvina (7) Karttika (8) Margasira (9) Pausha (10) Magha (11) Phalguna (12) Chaitra (13) Chaitra  
thi equivalents in days, decimals of a day, Ghatikas and Palas.

The equivalents in days, decimals of a day, Ghatikas and Palas.																				(Increase of Anomaly).		
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	28	29	30
10.83	11.81	12.80	13.78	14.76	15.75	16.73	17.72	18.70	19.69	20.67	21.65	22.64	23.62	24.61	25.59	26.58	27.56	28.55	29.53	.01	1.00	1.98
5	6	7	8	9	10	11	12	13	14	15	30 tithis-1 Anom. mo.											
55, 18	5, 54, 22	6, 53, 26	7, 52, 29	8, 51, 33	9, 50, 37	10, 49, 40	11, 48, 44	12, 47, 48	13, 46, 51	14, 45, 55	29, 31, 50, 27, 13, 17, (Increase of anomaly)											
20	21	22	23	24	25	26	27	28	29	30	28	29	30									
41, 14	20, 40, 17	21, 39, 21	22, 38, 24	23, 37, 28	24, 36, 32	25, 35, 36	26, 34, 39	27, 33, 43	28, 32, 46	29, 31, 50	0, 0, 26	0, 59, 29	1, 58, 36									

Names and Longitudes of Nakshatras and YOGAS.

ini	Mrigasira	Ardra	Punarvasu	Pushya	Aslesha	Magha	Pur. Phalguni	Utt. Phalguni	Hasta	Chitra
ryga	Sobhana	Atiganda	Sukerman	Dhriti	Sula	Ganda	Vridhhi	Dhruva	Vyaghata	Harshana
0'	53° 20'	66° 40'	80° 0'	93° 20'	106° 40'	120° 0'	133° 20'	146° 40'	160° 0'	173° 20'
shtha	Mula	Pur. Ashada	Utt. Ashada	Sravana	Sravishtha	Satabhishaj	Pur. Bhadr.	Utt. Bhadr.	Revati	
ryas	Parigha	Siva	Siddha	Sadhya	Subha	Sukla	Brahman	Indra	Vaidhriti	
18° 40'	240° 0'	253° 20'	266° 40'	280° 0'	293° 20'	306° 40'	320° 0'	333° 20'	346° 40'	

maly in Days and Decimals of a Day. (\*The signs - and + are to be applied to the equation in heavy type and not to the anomaly.)

5	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
9	2.02	2.14	2.27	2.40	2.53	2.67	2.80	2.94	3.08	3.23	3.38	3.53	3.69	3.85	4.01	4.19	4.37	4.56	4.76	4.98	5.21	5.48	5.78	6.14	6.70
0	12.10	11.99	11.88	11.77	11.66	11.55	11.43	11.31	11.19	11.07	10.94	10.81	10.67	10.53	10.38	10.23	10.07	9.90	9.71	9.51	9.30	9.06	8.78	8.43	7.90
5	15.45	15.56	15.67	15.78	15.89	16.00	16.12	16.24	16.36	16.49	16.61	16.75	16.88	17.03	17.17	17.33	17.49	17.66	17.84	18.03	18.25	18.49	18.77	19.12	19.65
6	25.54	25.41	25.28	25.15	25.02	24.89	24.75	24.61	24.47	24.32	24.18	24.02	23.87	23.70	23.54	23.36	23.18	22.99	22.79	22.58	22.34	22.08	21.73	21.41	20.86
5	16	17	18	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
4	15	15	16	17	18	19	20	21	21	22	23	24	25	26	27	27	28	29	30	31	32	33	34	35	

he Solar year and decimals of a day. (The anomalies are entered in ordinary type and the equations, with appropriate signs, in heavy type.)

+03	+02	+01	00	-01	-02	-03	-04	-05	-06	-07	-08	-09	-10	-11	-12	-13	-14	-15	-16	-17	-175	-18
71	74	77	80.5	84	87	90	93.5	97	100	103	107	111	115	119	123	128	132	138	145	151	160	168
273	269.5	266	263	260	257	254	250	247	244	240	237	233	229	225	221	216	211	206	199	190	183	176

hatikas and Moon's Anomaly in Days and Ghatikas. (\* The signs - and + are to be applied to the equation and not to the anomaly.)

7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1, 22	1, 34	1, 46	1, 59	2, 11	2, 24	2, 37	2, 51	3, 5	3, 20	3, 35	3, 51	4, 8	4, 26	4, 46	5, 8	5, 34	6, 8	7, 18
12, 39	12, 29	12, 19	12, 8	11, 58	11, 46	11, 35	11, 24	11, 12	10, 59	10, 46	10, 32	10, 17	10, 1	9, 43	9, 22	8, 59	8, 26	7, 20
14, 54	15, 4	15, 15	15, 25	15, 36	15, 47	15, 58	16, 10	16, 22	16, 34	16, 47	17, 2	17, 16	17, 33	17, 50	18, 11	18, 35	19, 7	20, 15
26, 12	26, 0	25, 47	25, 35	25, 22	25, 9	24, 56	24, 42	24, 28	24, 14	23, 58	23, 42	23, 25	23, 7	22, 47	22, 25	21, 59	21, 25	20, 17

Anomaly in Days. (The anomalies are entered in ordinary type and the equations, with appropriate signs, in heavy type. Reverse Sign for Yogas.)

+5	+4	+3	+2	+1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-10.5	-11
53	59	64	70	75	80	86	91	97	102	108	115	122	129	138	145	160	167
291	285	279	274	269	263	258	252	247	241	235	229	222	215	205	193	183	177

as Decimal Fractions of a Day. 365.25876 d. (1 Indian Sol. Year)=365 d., 6 hrs., 12 min., 37 sec.

as Decimal Fractions of a Day.															365.25876 d. (1 Indian Sol. Year)=365 d., 6 hrs., 12 min., 37 sec.															Minutes	
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	14	29	44														
7	42	46	50	54	58	62	67	71	75	79	83	87	92	96	01	02	03														
1, 17 p. Ghatikas as Decimal Fractions of a Day.															365.25876 d. (1 Indian Sol. Year)=365 d., 15 gh., 32 p.																
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30										
5	17	18	20	22	23	25	27	28	30	32	33	35	37	38	40	42	43	45	47	48	50										
9	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59											
55	67	68	70	72	73	75	77	78	80	82	83	85	87	88	90	92	93	95	97	98											



# INDEX.

*N.B.*—References to the Text are by Section in *Arabic* numerals, not by page, unless the page is specially indicated ; similarly, references to the Tables are by the *Roman number* of the Table (and occasionally by page, which is then specially indicated). Thus "215" means "Section 215 of the Text" and "II" means "Table II". Arabic numerals placed between brackets (except when a page of the Text is indicated), refer to the numbers of sub-paragraphs or sub-entries. Thus "112 (16)", "XIII-A (82)", "XIV (57)", "I (15)". The names of (12) signs of the Zodiac, (15) Tithis, (27) Nakshatras, (27) Yogas, (8) Karanas, (60) years in Jupiter's Cycle (Northern and Southern Systems), places whose latitude and longitude are given in Tables XIII and XIII-A, festivals noted under tithis, (21) eras noted under Sec. 112 etc., etc., have all been carefully indexed by references to Section, Table and sub-number.

<b>A</b>		<b>A—(contd.)</b>	
Actual moment of New-Moon ...	Ch. III, 9-15	Amherst ...	XIII-A (45)
Aden ...	XIII-A (1)	Amli year ...	112 (11)
Adhika months, investigation of ...	151, 267-275	Amraoti ...	XIII-A (26)
" " limits of ...	II	Amrita-yoga ...	54
" " system explained ...	18-34	Amritsar ...	XIII-A (85)
Âdi, Tamil solar month ...	II, VIII, X, XII, etc.	Anala, or Nala, in Jupiter's cycle ...	I (50), XIV (23)
Adoni ...	XIII-A (62)	Ânanda in Jupiter's cycle ...	I (48), XIV (21)
Africa ...	86	Ananta Chaturdaśī ...	115, p. (51)
Akbar ...	112 (21)	Angirasa, in Jupiter's cycle ...	I (6), XIV (39)
Ahas ...	57, 58	Anhilwad ...	XIII, pp. 171-176, XIII-A (108)
Ahmadabad ...	XIII-A (28)	Âni, Tamil solar month ...	II, VIII, X, XII, etc.
Ahmadnagar ...	XIII-A (29)	Annual correction ...	263 ; XI
Aippaśi, Tamil solar month ...	II, VIII, X, XII, etc.	" equation for planets ...	XVII
Ajā Ekādaśī ...	115, p. (49)	" " moon ...	117 (5)
Ajmere ...	XIII-A (2)	Anomalistic month ...	112, 250
Akola ...	XIII-A (25)	" year ...	4, 252
Akshaya, or Kshaya, in Jupiter's cycle ...	I (60), XIV (33)	Anomaly and equation, Moon's ...	IX-a to l, XVI-B
Akyab ...	XIII-A (44)	" Sun's and Moon's ...	9, 15, 94, 212, 250-253
Alleppey ...	XIII-A (130)	Anurādhā (Nakshatra No. 17), III, XI, XVIII, Eye-Table.	
Alwar ...	XIII-A (136)	Aparā Ekādaśī ...	115, p. (49)
Âmalakī Ekādaśī ...	115, p. (49)	Aparāhna ...	113 (5)
Amānta system ...	32	Arapaksha same as <i>krishna paksha</i> , which see.	
Amāvāsyā (Bahula Panchadasi, Tithi 15) ...	32, 115, p. (53)	Apogee ...	198, 199

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10	26	6	10
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14	0	16	14
	June	34	1	31	28	53	4
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20	27	33	17 (1 Anom. Month.)
	June	33	55	11	1	19	47

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**C**

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**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	49	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	9	3	57	1927	0	2	7	9	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	39	21	0	56	29	1933	0	39	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

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Kataka, Rāśi	...	Eye-Table.
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**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
(Table XI—B, previous page) Shortest interval from Jyeshtha New Moon to No. 3 Kritika Nakshatra.		26	6	10		26	6
Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19
						17	(1 Anom. Month.)

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)	+	1	25			
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.

**TABLE XI-C. Annual Correction (additive) for Nakshatras and Yogas A.D. 1840-A.D. 1920.**

Nakshatras.							Yogas.							Nakshatras.							Yogas.							Nakshatras.							Yogas.						
A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.	A. D.	d.	gh.	p.	d.	gh.	p.							
1840	0	40	22	1	15	7	1860	1	30	16	2	47	59	1880	0	7	38	0	14	14	1900	0	57	33	1	47	6	1920	0	57	33	1	47	6							
1841	1	29	15	2	46	5	1861	0	6	37	0	12	19	1881	0	56	32	1	45	11	1901	1	46	26	3	18	3	1921	1	46	26	3	18	3							
1842	0	11	35	0	10	25	1862	0	55	30	1	43	17	1882	1	45	24	3	16	9	1902	0	22	46	0	42	24	1922	0	22	46	0	42	24							
1843	0	54	28	1	41	27	1863	1	44	23	3	14	15	1883	0	21	45	0	40	29	1903	1	11	39	2	13	21	1923	1	11	39	2	13	21							
1844	1	43	21	3	12	20	1864	0	20	44	0	38	35	1884	1	10	38	2	11	27	1904	2	0	32	3	44	19	1924	2	0	32	3	44	19							
1845	0	19	42	0	36	41	1865	1	9	37	2	9	31	1885	1	59	31	3	42	24	1905	0	36	53	1	8	39	1925	0	36	53	1	8	39							
1846	1	8	35	2	7	38	1866	1	58	30	3	40	30	1886	0	35	52	1	6	45	1906	1	25	46	2	49	37	1926	1	25	46	2	49	37							
1847	1	57	28	3	38	36	1867	0	34	50	1	4	51	1887	1	24	45	2	37	43	1907	0	2	7	0	3	57	1927	0	2	7	0	3	57							
1848	0	33	49	1	2	57	1868	1	23	43	2	35	48	1888	0	1	6	0	2	3	1908	0	51	0	1	34	55	1928	0	51	0	1	34	55							
1849	1	22	42	2	33	54	1869	0	0	4	0	0	9	1889	0	49	59	1	33	1	1909	1	39	53	3	5	53	1929	1	39	53	3	5	53							
1850	2	11	35	4	4	52	1870	0	48	57	1	31	6	1890	1	38	52	3	3	58	1910	0	16	14	0	30	13	1930	0	16	14	0	30	13							
1851	0	47	56	1	29	12	1871	1	37	50	3	2	4	1891	0	15	12	0	28	19	1911	1	5	7	2	1	11	1931	1	5	7	2	1	11							
1852	1	36	49	3	0	10	1872	0	14	11	0	26	24	1892	1	4	5	1	59	17	1912	1	54	0	3	32	8	1932	1	54	0	3	32	8							
1853	0	13	9	0	24	30	1873	1	3	4	1	57	22	1893	1	52	58	3	30	14	1913	0	30	21	0	56	29	1933	0	30	21	0	56	29							
1854	1	2	3	1	55	28	1874	1	51	57	3	28	20	1894	0	23	20	0	54	34	1914	1	19	14	2	27	27	1934	1	19	14	2	27	27							
1855	1	59	56	3	26	26	1875	0	20	18	0	52	40	1895	1	18	12	2	25	32	1915	2	8	7	3	58	24	1935	2	8	7	3	58	24							
1856	0	27	16	0	50	46	1876	1	17	11	2	23	38	1896	2	7	5	3	56	30	1916	0	44	27	1	22	45	1936	0	44	27	1	22	45							
1857	2	16	9	2	21	44	1877	2	6	4	3	54	35	1897	0	43	26	1	20	50	1917	1	33	20	2	53	42	1937	1	33	20	2	53	42							
1858	2	5	2	3	52	41	1878	1	42	24	1	18	56	1898	1	32	19	2	51	48	1918	0	9	41	0	18	3	1938	0	9	41	0	18	3							
1859	0	40	23	1	16	47	1879	1	31	18	2	49	54	1899	0	8	40	0	16	8	1919	0	58	34	1	49	0	1939	0	58	34	1	49	0							

**EXPLANATION.**

In the *N.B.* to Sec. 263, p. (95) of the text additive tables for Nakshatras were promised with the next edition. The convenience of having additive formulae for the current epoch A.D. 1840 to A.D. 1920 is so great that the necessary tables are presented to the reader in the above addenda as Tables XI—B. and XI—C. Examples will now be given, showing how these tables should be used.

**I. Required the ending moment of Nakshatra Kritika for the month of July 1910 (vide p. 232 of Tables).**

	d.	gh.	p.	☾'s Anom.	d.	gh.	p.
(Table XII, p. 15) Jyeshtha New Moon.	June	7	39	7	2	30	40
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Add Nakshatra correction for 1910 (XI—C. <i>Supra</i> .)		0	16	14		0	16
	June	34	1	31		28	53
(Table IX-L, p. 23.) Nakshatra Eqn. for Anom. of ☾		-	6	20		27	33
	June	33	55	11		1	19

Kritika Nakshatra ended on June 33, i.e., on 3 July 1910, at 55 ghatikas 11 palas after mean Lanka Sunrise. If we want local time, we should use Table XIII.

**II. Required the ending moment of Yoga Vyatipata (No. 17) in July 1910.**

	d.	gh.	p.	☉'s Anom.	d.	gh.	p.	☉'s Anom.	d.	gh.	p.
(Table XII, p. 151.) Ashadha New Moon.	July	7	10	57	84	58	29	4	29	13	
(Table XI -B, previous page) Shortest interval from Ashadha New Moon to No. 17 Vyatipata Yoga.		3	58	34	3	58	34	3	58	34	
(XI—C. <i>Supra</i> ) Add Yoga correction for A. D. 1910.		0	30	13	0	30	13	0	30	13	
(Table IX- <i>i</i> , p. 20a) Sun's Yoga Eqn. for 89 d. 27 gh. + 1 gh. 25 p.		11	39	44	89	27	16	8	58	0	
" p. 20b. Moon's Yoga Eqn. for 8 d. 59 gh. 25 p. - 19 gh. 40 p.											
Sum - 18 gh. 15 p.		-	18	15	(☉'s Yoga Eqn.)			+	1	25	
July	11	21	29					8	59	25	

i. e., No. 17 Yoga Vyatipata ended at 21 gh. 29 p. after mean Lanka Sunrise on 11 July 1910.



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B.C. 1 to A.D. 2000*

L.D. SWAMIKANNU PILLAI

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